

UNC-CH HEALTH SCIENCES LIBRARY



H00380538R

The Library
of the
University of North Carolina



Endowed by The Dialectic
and
Philanthropic Societies

610.5
S727s
v.93
1931

Med. lib.

*This book must not
be taken from the
Library building.*

LUNC-15M N.36
OP-13370



Digitized by the Internet Archive
in 2011 with funding from

North Carolina History of Health Digital Collection, an LSTA-funded NC ECHO digitization grant project

Fractures of the Lower Extremity*

M. H. TODD, M.D., F.A.C.S., Norfolk, Va.

This paper deals with a subject familiar to you all; for all of you, whether specializing in surgery, or doing general practice, are called upon to treat fractures. You are aware that there is nothing in your practice that is more gratifying than a good result in a fracture case; and nothing more disabling to the patient than a poor result. Surveys of large numbers of cases have shown that end-results of fractures are not by any means always good.

Many fractures are very far from minor problems; any one of a number of complications may be present, and the patient's very life may be jeopardized, to say nothing of his ability to return to work and earn his living. With modern methods of diagnosis and treatment, almost without exception, all fractures may be made to give good results. It is essential, however, to recognize that there are two entirely different groups of fractures: first, those which may be treated in the office or at home; and second, those demanding treatment in the hospital. For there are certain fractures which no man may hope to treat unless he has a specialized and varied equipment ready at hand, and unless the patient will consent to remain under his direct control; and this is so, no matter how expert the surgeon may be, nor how intensive his training.

The cases used in this paper to illustrate these two groups of fractures are taken from a series of 1,000 fractures treated under a centralized surgical service in a mining region with a population of some 12,000. There were in the series 560 fractures of the lower extremity, not including the toes, under my own care.

The first group comprises those which are not ordinarily difficult to reduce, which show no particular tendency to re-displacement after reduction, and which present no significant injury to the soft parts. These fractures may be expected to give good results if treated at home, and indeed some of them may be perfectly well treated at the office.

The first picture (1) shows a simple transverse fracture of the leg. There is little tendency to displacement, and if it is reduced so that the tibial fragments are end-on, a simple plaster cast properly applied in correct alignment may be expected to give good results. The fibula may be disregarded. It is of course necessary to elevate the leg after the cast is put on, and to be watchful for 24 hours for swelling, which may require the cast to be split and loosened—the same precautions necessary in all fractures, of course. And as always, the position should be checked and rechecked by x-ray, for, with atrophy of the leg, the cast loosens and redisplacement may occur when all seems well.

The next (2) shows an oblique fracture involving only the tibia. Here the fibula will splint the fracture pretty well, and only a small amount of displacement will occur, so that here again a simple cast, either at once or after a few days' temporary splintage, will provide adequate treatment. If the fibula is also broken, however, the case is very different, for much overlapping is likely to occur in spite of any attempt to hold correct position.

Next (3) is shown a Pott's fracture, in this case involving both ankles as you see. Reduction is generally not difficult, and indeed no anesthesia may be required. If there is

*Presented to the Seaboard Medical Association, meeting at Elizabeth City, N. C., December 2nd, 3rd and 4th, 1930.

doubt, the position should be checked by the portable x-ray, if available, while the hand steadies the fracture, as shown next (4). A light cast will generally hold the fracture correctly; it should be molded as it hardens, making inward pressure over the cuboid region, and counter-pressure outward on the tibia above the fracture so as to prevent redisplacement outward. The foot should be held at a right angle; it is a mistake to invert it more than slightly. Union occurs in normal time. Non-union, particularly of the internal malleolus, occurs more frequently than is generally supposed. Picture 5 illustrates non-union of both malleoli. If there is any disability, as there was in this case, it is a simple matter to put in a small inlay graft, when union will immediately take place. In this instance, two grafts were used, as shown in 6.

By far the best results in Pott's fracture are to be obtained by using the Delbet splint; this is, however, an apparatus requiring very exact application. I again show (7), the man with both ankles broken.

Uncomplicated Pott's fracture can be handled at home. It is well to bear in mind, however, that very marked disability follows inadequate treatment of these fractures, much more so than in fractures of the middle of the leg. Only a little shifting of the outer malleolus, with widening of the ankle-joint mortise, will inevitably lead to a poor result. Furthermore, marked swelling may be present, and this complicates the picture. The more severe of these fractures are therefore best treated in hospital, if the patient will consent to go there. The picture here shown (8) is an example of a poor result; there is marked deformity, so that the contour of the bones at the ankle is hardly recognizable. The man of course had a good deal of disability, though he walked about, and even applied to us for work. The condition was discovered on our routine examination of workmen.

The next cut (9) shows bilateral fracture of the os calcis. You will note that one heel is little changed, while the other is shortened and thickened. Fracture of the os calcis may show only a few cracks in the bone, and here the treatment is simply a light cast after the primary swelling subsides. Where, however, there is deformity, with flattening or widening of the bone, very marked disability is to be

feared, and treatment is more difficult. Such cases belong in the hospital; and it may be necessary to reduce the deformity by molding with a mallet, after Cotton's method, by strong traction with a pin in front of the Achilles tendon, perhaps by tenotomy. The foot is to be immobilized in purposeful drop-foot—one of the few situations where this is allowable. Arthrodesis is sometimes to be done later. It has not been necessary in the cases in this series.

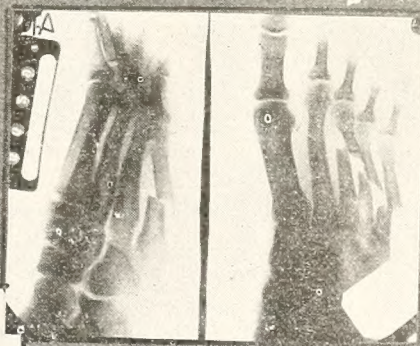
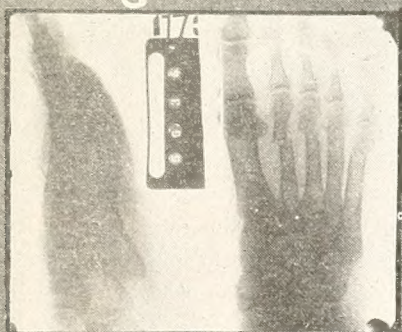
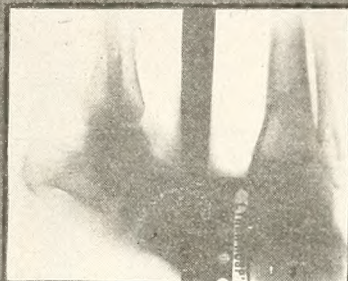
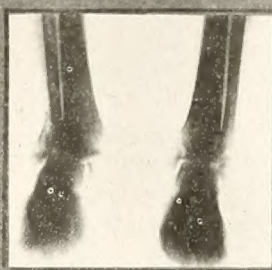
The next picture (10) illustrates fracture of the metatarsals. There is apt to be no great displacement, and treatment consists in a simple, light cast, well molded to follow all the contours of the foot, especially the arches. This can be done at the office, and the patient sent home to stay in bed a few days. No weight is to be borne until there is good union. It is risky to attempt to reduce fractures of the metatarsals by pulling on the toes, and manipulation of the foot; displacement is likely to be made worse rather than better.

If several metatarsals are broken, with displacement, as next shown (11) the case is quite different, and open reduction may be required, with correction of the deformity as shown in 12. Skeletal traction is said to be efficient. I have not used it in these fractures.

One complication deserves mention: the dorsal artery of the foot may be ruptured by the same violence that caused the fracture, and so much extravasation may occur that gangrene of the foot will follow unless an incision is made through the deep fascia. Such complicated cases obviously belong in hospital. The results should be good; there were 150 in this series, and only two cases of significant disability occurred.

The second large group of fractures comprises those that cannot in general be adequately treated in the office or at home; and is illustrated by the following pictures:

Oblique fracture of the leg, shown first (13) will not stay reduced unless the fibula is unbroken. If displacement is not great, the result of simple treatment is fairly satisfactory; but if more perfect restoration is to be attained, skeletal traction or plating is necessary. The next (14) shows the end-result in such a case, where the patient had to be



311064

treated rather than the fracture, because of his poor general condition, and because of delirium tremens. The leg is useful, but it is not a really desirable result.

Comminuted fractures (15) illustrated next, are risky to treat except in the hospital, for deformity easily occurs. In the hospital, efficient reduction can be maintained by using the Sinclair skate, or skeletal traction if necessary; or, with meticulous care, the Delbet splint.

The next (16) illustrates a variation of the transverse fracture, the fracture-line being curved so that there is little more than a blunt point of the shaft left at the cortex. Such fractures are anything but easy to maintain in reduction. You will put them up in plaster, take an x-ray picture and congratulate yourself that all is well; later on, you are chagrined to note that something has slipped, as the end-result here shows (17). The man has returned to regular work, but the weight-bearing line is altered, and the leg is not as perfectly restored as it should be. Yet, primarily, accurate reduction was attained and a well-fitting cast molded to the contours of the leg. The next was (no cut) the same sort of case treated by an assistant; the result is if anything still less perfect, though here again the patient has gone back to his work. In such cases, it is often really better to plate, as shown next (18).

Fractures of the astragalus, illustrated next, belong strictly in the hospital. They must be accurately reduced, so that the joint-surface is smooth, or much disability may result. Reduction is not always easy; 19 shows a fracture after I thought I had reduced it, and had put a cast on. You can easily see the gross displacement which is still present. The result would have been an almost useless ankle. Correct reduction was attained by operation, and the end-result is shown next (20). The man got a perfectly normal foot, with no disability whatever, and he is still doing full duty in the mines. These pictures illustrate, also, the necessity of taking check x-ray pictures after reduction of fractures, and the risk there would be in omitting them. Severe compound fractures of the astragalus are best treated by removing the bone, as shown next (21). The result is quite good, though only light or moderate work can be done.

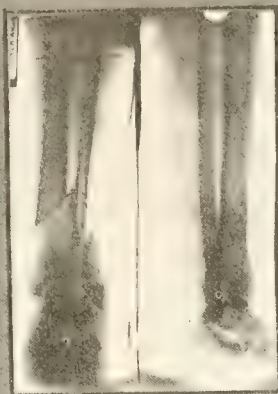
Turning now to fractures of the femur, it may be dogmatically stated that it is a mistake to treat them anywhere but in the hospital; for end-results are apt to be not at all good, as shown by several surveys of large numbers of cases. They present a special problem; and in the war, good results were obtained only when they were put into special hospitals under specially trained men.

I can give here only the briefest outline of their proper treatment. If there is considerable comminution, simple traction in the Thomas splint will serve, with continual watchfulness for sagging backward or outward, for hyperextension of the knee, for foot-drop, and for inward rotation of the lower fragment—a point not generally emphasized. Constant and unrelenting vigilance is necessary, for nurses and the patient's friends will inevitably pile pillows around under the splint, thereby defeating its purpose; and with the rapid atrophy of the thigh, the whole alignment of the bone will change, and will require readjustment from time to time. Further, the traction must be adequately maintained—a little problem in itself. Repeated check by the bedside x-ray is essential. Later on, movements at the knee must be started, for otherwise disabling stiffness occurs rapidly, and is long in being overcome. The whole treatment is very tedious and exacting.

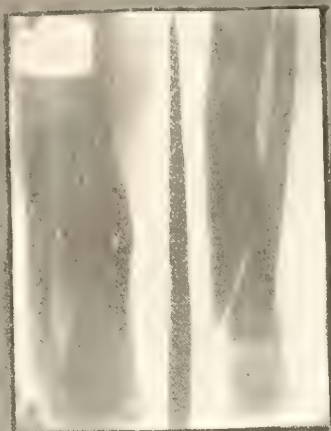
A transverse fracture of the femur is shown in 22. Here the problem of reduction is added to the manifold other problems above mentioned. You will agree that better position should be attained, than is here shown. The next (23) shows that it was, in fact, attained, but it was not easily done. It is not infrequently necessary to plate, or to use skeletal traction.

Pictures 24-30 illustrate types of fractures that are impossible to hold in any sort of reduction by ordinary means, even in the hospital. The best treatment here is plating; and if this is correctly done, the result may be expected to be a complete restoration to the normal, no disability whatever remaining.

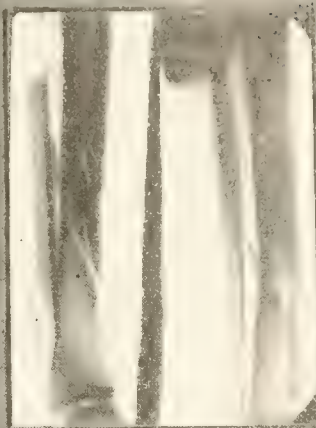
The next (31) shows a fracture of the femur into the knee-joint; there was also severe laceration of the other knee. The girl was told by her doctor that she would probably never walk again; and this represents a not infrequent notion as to the prognosis of severe fractures. Picture 32 shows reduction by



13



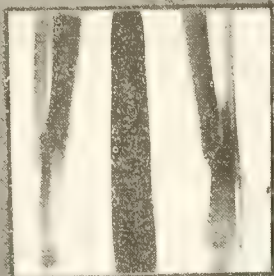
14



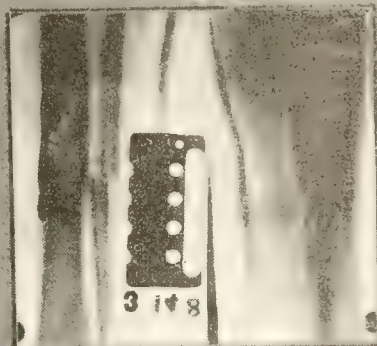
15



16



17



18



19



20



21



22

plating; and the next, the patient herself after ten months. My notes at that time state that she walks with an easy, springy gait without the slightest limp, wears the usual high heels, and runs up and down stairs all day as a chambermaid. In the end, the knee will regain I should say all of its motion, and there will be restoration to exactly the normal. It is almost normal now.

Many things may be done in the hospital, in the late stage of fractures, and end-results improved where necessary: osteotomy, bone-grafting, Bennet's operation for stiffness of the knee, and so forth. I show here (34-35) a few cases of bone-grafting; and in this next *slide* (36), an overlapped and ununited fracture of the tibia, sent in from outside, showing restoration by halving-in and plating.

Restoration after any fracture is much hastened by proper physio-therapy, and by functional use of the member; and hospital equipment should include means to supply both.

Briefly the end-results of this series of fractures were:

560 Fractures of the Lower Extremity

- 1 Died—streptococcus infection, severe compound fracture leg and ankle. No plating.
- 3 Much disabled—one fracture femoral neck, in an old woman; one non-union at hip, refused bone-graft; one severe Pott's.
- 9 Amputations, mainly for severe soft part injury or gangrene.
- 15 Able to do moderate or light work.
- 532 Returned to regular work.

GENERAL COMMENT

One special group of fractures must be mentioned — namely, compound fractures. There is no question that these belong in hospital. With adequate treatment, the end-results are nearly always excellent, and serious infection is quite unusual. Outside the hospital, the results are not so happy. It is wisest to disturb such fractures as little as possible en route to the hospital. Best simply paint the outside with iodine, and put on sterile gauze. Do not probe, and do not permit anything, even the iodine swab, to enter the wound. Do not put in drains; in fact, until the patient is safely in hospital, simple painting is all that should be done, with simple gauze dressing. Splint with as little disturbance as possible. I cannot enter here into

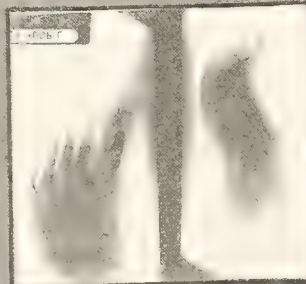
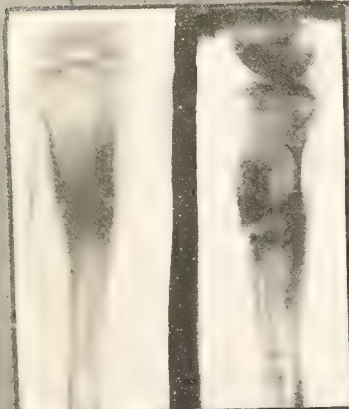
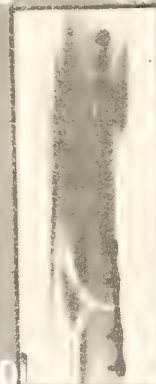
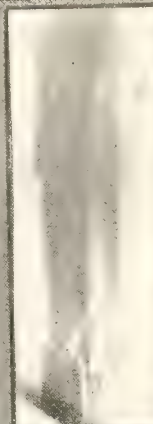
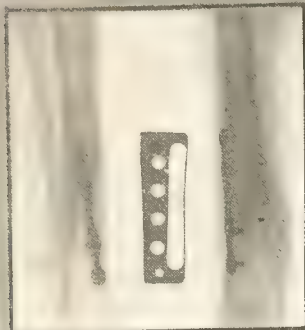
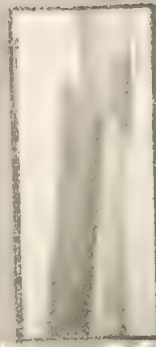
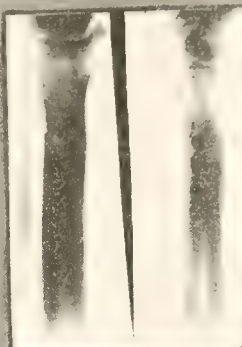
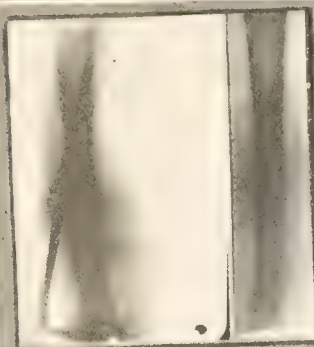
the proper care of these cases in hospital, for the subject is complex, and time does not permit. But they should be gotten to the hospital without any delay; for surgical treatment carried out within six hours after the injury will very frequently prevent infection, and the fracture will behave as a simple fracture. You are all aware of the serious results of deep infection, with ensuing great delay in healing and union, and with the threat that it may carry to the patient's life. It is therefore very important indeed to insist upon immediate hospitalization of these compound fractures.

A word as to splintage for transportation: for the ankle region, a pillow-splint is very good—simply a pillow pinned around the member. For higher fractures, a Thomas splint is best if available; otherwise a long board splint extending clear to the arm-pit, with perhaps a shorter splint at the inner side of the leg.

Maybe I appear to emphasize hospital treatment unduly. The point I wish to make clear, however, is this: that practically all fractures of the lower extremity may be made to give good results, provided the patient will submit himself to appropriate treatment. A few cases will present so much injury to the soft parts, such loss of bone substance, or such disorganization of joints, that amputation is the only recourse; and a very few will be so badly hurt in other ways that the fracture itself must be disregarded. Otherwise, restoration to the normal should be the rule; and hopeless crippling should almost never occur.

Lest I should be accused of overenthusiasm in the matter of open reduction, let me say that I treated only about 7 per cent of fractured legs, and 18 per cent of fractured thighs, in this series, by plating.

I have said that x-ray should be taken after reduction of fractures. Let me say further that in cases of damage suits following fractures, the jury is bound to take notice of the fact that proper x-rays have or have not been taken; and in view of the ever larger sums which are being awarded in such suits, it behooves the doctor to make free use of the x-ray for his own protection as well as that of the patient.



SUMMARY

Any type of fracture which presents no special tendency to displacement may be handled at home, provided the problem of reduction is not too difficult; a second group of fractures presents such inherent difficulty in treatment that imperfect results can hardly be avoided unless the patient will consent to hospital treatment; though this need by no means always be prolonged. Quite specialized equipment should be available. With

good equipment, however, with the patient's coöperation, with early physiotherapy and early properly graduated functional use, almost perfect end-results can be obtained, and may be expected routinely. Where for any reason the result is not good at first, much can be done by suitable after-treatment such as osteotomy; and in the end, practically all can be sent back to regular, steady work.

-712 Botetourt St.

The Objective Method and Psychopathology

TOM A. WILLIAMS, C.M. (Paris), Miami Beach, Fla.

The whole matter of psychopathology is so often misunderstood and treated cavalierly or with indifference, that I am glad to speak concerning the methods of presenting psychopathological data to students, without an inordinate expenditure of time, in such a way as to enable them to grasp the principles and apply them in practice. In doing so, I wish merely to emphasize the fact rarely grasped that psychopathological data are just as objective, and therefore when clinically germane should receive just as much weight, as even the findings of the laboratory. They are physiological reactions merely, and it is just as unreasonable to deny their validity as to deny that of any physiological experiment, such as the electrotonic quality of nerve, the depressor action of the cardiac sympathetic, the vago-tonic effect of pneumogastric stimulation, or even of any of the reflexes currently employed by those very neurologists who go out of their way to abuse psychopathological investigations. Consider an easily observable example in a lowly biological order, the sensitive plant; the grasping of the impinging insect by this organism is strictly comparable to the reactions with which psychopathology is concerned; it is a tropism of the whole organism towards an end and determined by an antecedent stimulus. It is an objective fact, though of great simplicity and of immediate response; whereas in a mammal, the tropism we call an act of behavior is exceedingly complex and its immediateness is often concealed by that very

complexity. That is determinable with absolute precision and experimentally has been shown us by the conditioning of the affective reactions in Pavlov's experiments upon the determination of the gastric flow in which, for example, a stimulus so apparently unrelated as the ringing of a bell, could mediate the reaction of the gastric juice through the emotion of pleasure; whereas, on the contrary, the same stimulus by other conditioning in another animal could be made to inhibit gastric flow.

This apparent contradiction is possible in virtue of the lability of the integrative reactions of the nervous system in higher animals by virtue of what is called associative power. To such labile conditionable functions we give the name psychic; and the study of their disorders is psychopathology, and the determinants of disorder are psychogenetic.

A very important consideration presents itself here in virtue of the fact that because a stimulus leaves a permanent disposition upon future reactivity, there is developed the function known as memory; and in virtue of this, reactions occur to stimuli the presence of which superficial observation is not sufficient to reveal. Investigation of the memory content is essential and this comprises its analysis and explanation. It is by this means that the initial effective disease-causing stimulus is ascertained; and it is only when this is done that an intelligent procedure for the rectification of the disorder can be inaugurated.

The Causes of Blood Spitting*

JOHN SALIBA, M.D.:C.M., Elizabeth City, N. C.
Albemarle Hospital

The frequent assertion by professional men and the general belief by laymen that all patients exhibiting the symptom of hemoptysis should be treated as suffering from pulmonary tuberculosis is my reason for presenting this paper. Although pulmonary tuberculosis is by far the commonest individual cause of hemoptysis, there are a very large number of causes which collectively are responsible for a considerable proportion of the total of cases of blood spitting; and unless this fact is carefully borne in mind frequent errors will occur.

Fishberg states that of all patients who come to him with hemoptysis 50 per cent are not tuberculous. Jex Blake found 54.6 per cent of such patients tuberculous. Cabot reported that out of 3,444 patients exhibiting hemoptysis 1,723 only were tuberculous and Stucker in his examination of 900 patients showing hemoptysis found 77.6 per cent to be tuberculous. This is why when a patient states that he has coughed up some blood we should exercise considerable care to determine the correct diagnosis.

At first, we must make sure that the blood was expectorated and not vomited. If the patient is seen during the attack it is not difficult, as a rule, to determine where the blood comes from. But it is rather difficult to make sure of its source when we have to depend solely upon the history given by the patient. Expectorated blood is usually bright red, frothy and alkaline in reaction. It is coughed up. It is usually preceded by a tickling of the throat and the sputum may be streaked for some days. Vomited blood is often clotted, dark and acid in reaction. It is vomited. The patient feels giddy and faint, and the stools show the presence of blood for some days after. However, in some cases confusion may be caused by some of the blood which is coming from the lungs being swallowed and producing tarry stools. In such cases we must fish for a cough or some sign of pulmonary or cardiac disease which frequently precedes the hemorrhage

and points to its source. Also, in other cases perplexity may be created by some of the vomited blood being inhaled into the bronchi and subsequently coughed up. In these cases we must pry into the previous history which points to abdominal disease.

In the second place, we must decide whether the hemoptysis is true or spurious. In true hemoptysis the blood comes from the lung, the bronchial tubes, the trachea or the larynx. In spurious hemoptysis the blood comes from the mucous membranes in the mouth, pharynx, esophagus, nose, or sinuses.

As to the quantity of blood coughed up it may be only enough to make streaks in the sputum, or fluid and clots may be expelled amounting to several ounces or pints.

We find hemoptysis in pulmonary tuberculosis, in cardiac disease, in aortic aneurysm, in bronchiectasis, in acute and chronic non-tuberculous pulmonary conditions, in lesions of the large bronchi, trachea and larynx, in diseases of the blood, in relation to pregnancy and menstruation, in hysteria and hemoptysis of unknown cause and origin.

HEMOPTYSIS IN PULMONARY TUBERCULOSIS

At any stage of pulmonary tuberculosis bleeding from the lung may occur or may never appear. The tendency to bleed bears no constant relationship to the severity or rate of progress of the disease.

In the early stages of pulmonary tuberculosis hemoptysis is a result of erosion of a small vessel. It is usually small in amount. It ceases spontaneously and is rarely fatal. It occurs in two groups of cases.

The first group is of those cases in which hemoptysis is the first symptom for which the doctor is consulted, and at this time the presence of well marked disease of the lung and of tubercle bacilli are revealed by physical signs, radiography and examination of sputum.

The second group are those cases in which although hemoptysis is the very first indication of trouble yet physical examination reveals nothing, the radiograph shows no infil-

*Presented to the Seaboard Medical Association, meeting at Elizabeth City, N. C., December 2nd, 3rd and 4th, 1930.

tration of lung tissue and the sputum is free from tubercle bacilli. Those cases should be carefully watched for a period of six months. If the hemorrhage was due to a lesion in the lung caused by tubercle bacilli, definite physical signs, as persistent post-tussive crepitation, will appear in the chest, radiographs will reveal infiltration of lung tissue and tubercle bacilli will be found in the sputum. If at the expiration of six months no such evidences are forthcoming the case should not be regarded as one of active tuberculosis.

In the later stages of pulmonary tuberculosis where cavitation has taken place hemorrhage is due to erosion of a relatively large vessel. This frequently is profuse and is liable to be fatal. Nowadays it is often averted by immediate induction of artificial pneumothorax.

In many non-tuberculous pulmonary and bronchial conditions especially in chronic bronchitis and emphysema streaking of the sputum with blood is very common. The appearance of streaks of blood in the sputum in the long-standing cases of these conditions should not lead us to assume that tuberculosis has supervened.

HEMOPTYSIS IN CARDIAC DISEASE

Mitral stenosis is the second most common cause of hemoptysis, excluding mere streaking of sputum. Hemoptysis may occur in other cardiac lesions but with nothing like the frequency or severity that is seen in mitral stenosis. Pulmonary tuberculosis and mitral stenosis are very rarely associated.

We must not fail to properly examine the heart before we make a diagnosis of pulmonary tuberculosis, as the victim of mitral stenosis is likely to confuse us when he has pyrexia and a spit owing to superadded bronchitis or congestion of the lung. We must also remember that in a valvular lesion a presystolic murmur varies. At times it is clearly heard; at other times it is only brought out by exercise or by the patient lying on the left side.

Abnormal physical signs in the chest, such as impairment of the percussion note, the alteration of the breath sounds and rales, may be due to an association of mitral stenosis with lesions of the lung, for an example, with lung infarction. However, an infarction deeply seated in the lung may give rise to a brisk hemorrhage without any abnormal physical signs.

In the later stages of stenosis when the heart muscle begins to fail marked congestion of the lung occurs and hemoptysis may be due to this cause. A radiograph will show mottling over both lungs. We should not fail to consult an expert radiologist to help us to distinguish this mottling from the infiltration seen in pulmonary tuberculosis.

HEMOPTYSIS IN AORTIC ANEURYSM

A sudden rupture of an aneurysm into a bronchus may occur in a person apparently in good health and who is unaware that he has anything the matter with him. In such a case the hemorrhage is very profuse and invariably fatal. In other persons, before the aneurysm perforates a bronchus, small repeated hemorrhages occur for months due to congestion caused by pressure and possibly from gradual leaking through the wall of the aneurysmal sac. These repeated hemorrhages are not infrequently ascribed to tuberculosis.

The difficulty in diagnosis is especially increased where the other signs of aneurysm are not well marked and where are present abnormal physical signs in the lungs which are often due to a pressure of the aneurysm upon the bronchus sufficient to cause collapse of the lung, and particularly where the collapse involves the upper lobes. The diagnosis is usually cleared up by the previous history, physical examination, radiography and the Wassermann reaction.

HEMOPTYSIS IN BRONCHIECTASIS

In bronchiectasis hemoptysis of all degrees may occur, from mere streaking of sputum to profuse hemorrhage. In the early stages small hemorrhages occur before a typical clinical picture is established. Error of diagnosis is likely to arise in these cases. We should suspect bronchiectasis where the sputum is repeatedly negative for tubercle bacilli, where the abnormal physical signs in the chest are basal, where the radiograph shows no infiltration of lung tissue and where after intratracheal injection of lipiodol the radiograph shows dilatation of the bronchi at the base of the lung. In the late stages of bronchiectasis large hemorrhages occur. There are signs of basal cavitation, profuse offensive sputum, clubbing of fingers and absence of tubercle bacilli from the sputum. Basal cavitation is rarely due to tuberculosis, but cavitation at an apex may be due to bronchial dilatation and not to tuberculosis.

HEMOPTYSIS IN NON-TUBERCULOSIS LUNG CONDITIONS

The rusty appearance of sputum in acute pneumonia is well known. Let us not forget that acute pneumonia may set in with expectation of an ounce or so of bright red blood.

In the non-tuberculous chronic inflammatory conditions which follow pneumonia and pleurisy hemoptysis may occur.

In chronic bronchitis and emphysema the appearance of sputum streaked with blood should not lead us to assume that tuberculosis has supervened.

In abscess and gangrene of the lung blood may appear in the sputum.

Intrathoracic neoplasm is not only responsible for "red-current jelly" sputum but in some cases for profuse hemorrhage.

Fungus infections, hydatid disease, and dermoid cysts of the lung are frequently associated with the spitting of blood.

Syphilis is usually given as one of the causes of blood spitting. It is very rare and difficult to diagnose.

HEMOPTYSIS IN LESIONS OF THE LARYNX, TRACHEA AND LARGER BRONCHI

Where there is a symptom of hemoptysis which can not be ascribed to any one of the causes I have already mentioned an examination of the larynx, trachea and larger bronchi should be made in order to exclude each as the site of bleeding.

HEMOPTYSIS IN DISEASES OF THE BLOOD

Where the origin of the hemoptysis is obscure and we fail to put the bleeding down to any cause our investigation will not be complete unless we make a blood examination. The tendency to bleed from the mucous membranes is a distinctive feature of various diseases of the blood such as hemophilia, purpura, leukemia.

HEMOPTYSIS IN RELATION TO PREGNANCY AND MENSTRUATION

A greater liability to bleed from the lungs at the menstrual period than in the intramenstrual period is at times exhibited by pregnant women who are suffering from tuberculosis. Cases have been recorded of hemoptysis in healthy women whose menstruation has been interrupted for some cause. Even when the menstrual period has not been interrupted vicarious hemorrhage has been held to account for rare cases of periodic hemoptysis.

HYSTERICAL HEMOPTYSIS

A person suffering from tuberculosis may become hysterical. A patient with hysteria of long standing may develop tuberculosis. In our examination we must make up our mind that there is an organic basis for the hemorrhage. Should we fail to discover an organic lesion after prolonged and careful examination the blood spitting may be regarded as a hysterical manifestation—a manifestation of a disturbed emotional state. There is nothing that a hysteric can not do. The hysteric may be sucking blood from spongy gums. A lesion may be found in the pharynx or the buccal mucous membrane which the hysteric has deliberately produced and which accounts for the blood spitting.

HEMOPTYSIS OF UNKNOWN CAUSE AND ORIGIN

A young healthy person spits blood without warning. The blood spitting may continue for a few days and then cease. No ill effects follow. The person enjoys good health for the rest of his life. Exhaustive physical, radiographic and microscopic examinations reveal none of the already stated causes to account for the hemoptysis. The term abortive tuberculosis is given to such a case. It is assumed that the invasion of the lung by the tubercle bacillus is the cause of the hemorrhage. And the individual's resistance is so great as to promptly slay the invading organism and so no further harm results.

FURTHER OBSERVATIONS ON PSORIASIS

(Editorial in *The Lancet* (London), Nov. 1, 1930)

Professor Samberger records an interesting observation that the psoriatic seldom or never produces a corn in response either to the stimulus of manual labour or the friction of an ill-fitting boot. The corneous layer of the epidermis does not hypertrophy in the normal fashion, and he adds that psoriatics seldom or never suffer from boils, because exfoliation takes place before the staphylococcus invades the follicle. In his view there is always a congenital, sometimes hereditary, weakness or dyscrasia of the keratin-forming cells, and this is the true cause of psoriasis. An individual with this type of skin can react only by producing the scaly patches. It is quite likely that psoriasis is always of bacterial origin, but that bacteria are only the accidental and associated, not the fundamental cause. He thinks we shall have to grapple with the problem prophylactically, and possibly even while the anticipated case is still a fetus in utero. Meanwhile, we can at times, at any rate, treat the associated or predisposing factors. We can also attempt to influence the general vitality and cohesion of the corneous layers by internal remedies, and for this purpose there is nothing better than arsenic.

Chronic Surgical Disease in the Abdomens of the Elderly*

ROBERT L. GIBBON, M.D., Charlotte, N. C.

The term "acute abdomen" has been popularized by Deaver of Philadelphia. Thoughtful individuals are inclined to look with suspicion upon catch phrases, slogans and the like, whether in medicine or elsewhere, as often being at best only half truths, and which serve too many as a handy excuse for not working things out for themselves. But the term "acute abdomen" conveys the idea of an acute surgical crisis somewhere in the abdomen and demanding prompt surgical intervention. Occasions arise when the time element is of such urgency that we would not be justified in waiting to establish a differential diagnosis, between, for example, a perforated duodenal ulcer and fulminating type of appendicitis. Even then it would perhaps be wiser and fairer to say we are doing an exploratory laparotomy. No such urgency attaches to the chronic abdominal disease conditions in the elderly or aged, provided the case is seen before terminal symptoms have developed. Here abundant time is available for a complete and thorough study of the problem and it will often require all the laboratory and mechanical aids to arrive at a definite opinion. Diagnosis is a medical problem of first importance, and when we remember that, even in so common a disease as appendicitis, a faulty or delayed diagnosis is occasionally made by some of the best of us, it behooves us lesser lights to watch our steps.

Contrary to general belief, aged people stand operative procedures very well, making the obvious exceptions for those suffering serious concurrent maladies. They usually also respond to proper treatment and good care in a very gratifying manner. We need not hesitate, then, to advise surgical treatment in this class of cases where the indications are plain. I shall be entirely satisfied if our discussion have the effect of emphasizing certain definite indications which should stimulate a more alert interest in the individual chronic abdominal case.

Out of the host of etiological factors which make for abdominal pain, suffering and invalidism resulting in gradual decline and ulti-

mate death, I shall chiefly consider those conditions producing chronic obstruction in the alimentary canal. It should not be forgotten that, while the symptoms of an acute obstruction are usually quite evident, a partial or chronic obstruction is much more difficult to recognize. Furthermore, while an acute obstruction very rarely becomes chronic, a chronic obstruction often becomes acute; put in different phraseology, a complete obstruction rarely becomes partial, but an incomplete obstruction is very likely to become complete. Bands, adhesions, fetal structures such as the omphalo-mesenteric remains, Meckel's diverticula, pressure from growths, hernias of all types, cicatricial contractures in the calibre of the canal, and malignant growths of the stomach or intestinal tract, are some of the most common causes of obstruction, complete or partial. The obstructions due to hernias in the old are usually too obvious to be overlooked. Perhaps the chief exception is femoral hernias in elderly ladies (in my own experience many of them have been old maids.) They, perhaps for years, have noticed a small tumor in the groin and have commonly ascribed any abdominal symptoms to other causes. In several instances, even when the symptoms have become gravely acute, they seemed to have forgotten about the hernia, and unless the physician is alert to the possibilities it may escape detection. I remember very distinctly just such a case in which the hernia was discovered barely in time to avert a resection. Since then I have made a rule to examine elderly women for femoral hernia, especially if there is unexplained vomiting.

Disorders of Meckel's diverticulum are capable of a great variety of symptoms, frequently simulating appendicitis, and it is a valuable rule to examine the terminal portion of the ileum whenever the abdomen is opened. As the diverticulum usually springs from the last 24 inches of the ileum, the ones more liable to be overlooked are those situated higher up, several feet from the ileo-cecal junction.

With Dr. W. O. Nisbet, I saw last year a

*Presented by Invitation to the Cabarrus County (N. C.) Medical Society, meeting at Concord, July, 1930.

typical case of chronic obstruction due to a Meckel's diverticulum in a man of 55. His chief complaint was of attacks of acute abdominal pain with vomiting. Pain was diffuse and without diagnostic significance as to locality. The attacks came at irregular intervals, but he thought more frequently when he ate freely. At such attacks there was a sensation of obstruction and difficulty in getting a bowel movement. He also stated that he had suffered from similar attacks since early childhood. Several years previous some optimistic surgeon had removed his appendix of course without relief. An x-ray study was of no value except for what it did not show. In spite of the record surgery had previously made, he reluctantly consented to an operation for purposes of examination. A very interesting situation was revealed by the section. Some 3 or 4 feet from the ileo-cecal valve a diverticulum was discovered about the size of a lemon. Its size and weight were sufficient to produce a partial twist with encroachment on the lumen of the gut. The great length of time the symptoms had persisted was attested by the marked compensatory hypertrophy of the small intestine above the diverticulum, it being nearly as capacious as the colon, with thickened muscular walls. The removal of the diverticulum resulted in relief from symptoms and marked gain in weight and strength of the patient. Relief from pain was immediate. The digestive functions were restored more gradually. This, no doubt, was because a certain period was necessary for a proper adjustment between the normal and the greatly enlarged portions of the small gut. The improvement in his health, however, was quite remarkable.

Occasionally, certain medical cases present symptoms very suggestive of surgical lesions in the abdomen. Within a comparatively short time we have seen two unusually striking instances of this kind. The first was a middle-aged man, a gold miner, who came in for possible gall-bladder disease. He had pains in the upper abdomen difficult to explain. The symptoms were so vague that, fortunately, a more careful investigation was made, with the result that a diagnosis of pernicious anemia was definitely established. Under liver feeding the blood picture changed to approximately normal and the pain disappeared. Something over a year and a half has elapsed and the patient is in good health,

though he finds the liver diet monotonous. A man of 60 had abdominal pains and a most obstinate diarrhea, both symptoms had persisted for a considerable time and the patient was emaciated, nervous and feeble. A medical consultant, Dr. Preston White, found an entire lack of acid in the stomach, a red blood count of 1,250,000 with a 40 per cent hemoglobin. Medical treatment brought about a very decided improvement; the diarrhea has ceased and his last red count was 4,400,000. There is a rather amusing sequel to this case that I learned only a few days ago, when the patient came into the office to report. Unknown to us, he decided to go to Baltimore for additional examination. His blood being approximately normal as a result of liver feeding, he was told that he had a lack of acid in the stomach but did not have anemia and was advised to discontinue the liver. His improvement, however, had been so marked that he was afraid to discontinue the liver without our advice. This illustrates how easy it is to err where you are not in possession of all the facts. Our medical colleagues tell us that pernicious anemia often exhibits symptoms not only referable to the digestive functions but also to the nervous system, either of which is liable to mislead the unwary.

The problem of malignancy of the stomach or intestines in the earlier stage is difficult of solution, chiefly because early recognition is of paramount importance if the patient is to have any chance of cure. This is notoriously true of gastric cancer. How seldom are these cases even suspected until they have entered the later period of obstruction and wide diffusion. The only safe attitude is one of suspicion toward persistent gastric symptoms in middle age, or after, particularly if there is no previous history of chronic indigestion. Many cases of gastric cancer develop in individuals who have had no previous disturbance. Carcinoma of the colon is equally as obscure in the pre-obstructive stage. I can recall no instance in which a diagnosis was made prior to the onset of partial obstruction symptoms, and in the majority closure of the canal was practically complete when first seen and the patient had persistent vomiting, distention and visible peristalsis. The prognosis, however, is better than in gastric cancer, due to several factors. First, constriction of the lumen often occurs

earlier, and second and mainly, cancer in this region is slower to metastasize, or to invade neighboring organs, than is cancer elsewhere in the abdomen. Hence, there is a chance for cure even in late operation. A third reason why colonic cancer is more hopeful is the possibility of two- or three-stage operation, the Mickulitz type. To attempt a complete resection at one sitting in many of these unusually very much depleted cases, is to invite almost certain disaster.

The first step, the establishment of an artificial drainage by means of a suitably placed colostomy, preserves the life of the patient and usually results in marked improvement in his general health, making possible a later removal of the affected gut with a reasonable degree of safety. The third step consists in closing the artificial anus after the normal channel is re-established by the resection. This method must be varied to suit the location of the cancer and the condition of the individual patient.

In the last five years we have complete records of three resections of the cecum with anastomosis of the terminal ileum to the ascending colon. One of these patients has remained well for five years and the other two have remained well over three years. One patient on whom we did a typical Mickulitz operation for removal of cancer of the ascending colon remained well for three years and is now in the hospital because of a recurrence. This patient is a woman of 75 years, and we have very little hope of her surviving the recurrence of the cancer. We have on hand two cases in which the extent of the growth did not permit anything beyond a first stage operation, that is, a colostomy, for relief of obstruction. One of these is a man of 82 who was operated upon a year ago for complete obstruction. A colostomy undoubtedly has prolonged his life and enabled him to get about and attend to his affairs in reasonable comfort. The second is a woman of 70, whose case was correctly diagnosed at her home in Pittsburgh two years ago, but for some reason nothing was done about it and she came down here to see a married daughter. The obstruction became acute and two months ago she was given a right colostomy. This was followed by considerable improvement, but at the second operation it was found impracticable to remove the cancerous growth, situated at the junction of the sigmoid and the rectum.

In addition, there is a successful case of resection in three stages of carcinoma of the transverse colon. This was done only six months ago and at present the patient is in good health.

It is to be regretted that these cases of colonic cancer are too often regarded as hopeless and no real effort made at radical cure. The few cases here reported show that it is possible in a certain number to obtain a permanent cure, and since the patient has everything to gain and nothing to lose, he is entitled to his chance.

These seven operative cases were seen in the last five years. In addition, a few inoperable patients have been seen in the same period. In most of them the abdomen was opened but no removal attempted, usually because of the extension of the malignant disease. I have not included in this report cancer of the upper or lower rectum nor of the small intestine. The treatment of any form of internal cancer is to physicians generally a matter of great discouragement, but if we avail ourselves of every means of early diagnosis and treatment, there will be added to our records not a few instances of lives saved, which were otherwise hopelessly lost, and many of relief from suffering over long periods.

CAUSATIVE FACTORS IN STERILITY

(Meaker, S. R., in *American Jour. Obs. and Gynec.*, Dec., 1930)

Modern research shows that sterility is commonly due to the combined influence of multiple causative factors. Any single one of these, excepting the comparatively few absolute factors, may not be sufficient to cause sterility; all of them together depress fertility below the threshold of conception.

About one-third of all demonstrable causative factors are extragenital conditions of constitutional depression, which lower the inherent fertility of the gametes. Such conditions are operative, in one or both partners, in nearly 90 per cent of sterile matings. In the male they are, in the aggregate, more important than abnormal local conditions.

About one-third of all demonstrable causative factors are on the male side, and two-thirds on the female side; in more than 90 per cent of clinical cases, however, there is some division of responsibility between the two partners.

Acidosis*

E. S. KING, M.D., Wake Forest, N. C.

Professor of Bacteriology and Physiological Chemistry, Wake Forest College

The condition known as acidosis is a definite clinical entity, but it is not a disease. It is a symptom which indicates the existence of some definite bodily ailment an accompaniment of a pathological condition. Acidosis is effect, not cause.

The term, acidosis, is used rather loosely in general medicine, and seems to convey the idea of a definite disease condition and that the human body, including the tissues, blood, etc. are acid, which is of course not true. The human body is slightly alkaline at all times except possibly in some instances just before and after death; its activities and proper metabolic functions can be carried on only in an alkaline medium. Life is not compatible with an acid reaction of the body. The reaction of the body fluids and tissues depends on the relative quantities of free hydrogen (acid) ions or hydroxyl (alkaline) ions. The term commonly used to express the amount of H -ions is pH ; pH 7 is the neutral point, figures below this are acid and above alkaline. Normally the blood's pH is 7.35 and in conditions of extreme acidosis this may be lowered to the neighborhood of pH 7, a condition which involves the trebling of free H -ions. But a condition of acidosis can exist without any measurable change in the pH of the blood because various mechanisms in the body intervene to prevent any change in the H -ion concentration of the blood. When these mechanisms succeed in preventing a change in the pH , the acidosis is said to be compensated. When a few drops of acid are added to a given quantity of water the change in the number of free H -ions is considerable and is easily measured; when added to a similar amount of blood no measurable change in the free acid ions takes place, because the blood contains alkaline buffer substances (alkali reserve) which absorbs the excess of acid and prevents any increase in the free acid ions. These buffer substances absorb acids like a sponge absorbs water and therefore neutralizes all acids as soon as they are

produced. Normal blood carries 55 c.c. of carbon dioxide per 100 c.c. and still remains alkaline while if this same amount of carbon dioxide is passed through 100 c.c. of water it produces a pH of 4.5 for the water, which is a definite acid condition.

The chief buffer substance of the blood is sodium bicarbonate which is found along with other carbonates. More important though than the carbonates in buffering is the hemoglobin of the blood itself, which is responsible for about 62 per cent of the total bodily buffering. In the tissues we find that the chief buffering substances are the phosphates. So that these three groups of substances, known as the alkali reserve of the body, form the first line of defense against acids, and prevent the body in its normal metabolic functioning from ever becoming the slightest bit acid.

If it were not for some kind of protective mechanism the body would become acid in the course of a few days, because a group of acids are being produced every minute of life as a result of normal bodily metabolic processes. Some of these acids are carbonic, phosphoric, sulphuric, lactic, acetic, benzoic, butyric, propionic, phenylacetic and many others, and most or all of these have their origin from foods, especially proteins. With this enormous acid production the body must have efficient machinery to maintain its alkaline reaction. In addition to this buffering action of the blood and tissues, carbon dioxide expiration prevents the formation of carbonic acid. The body eliminates daily carbon dioxide which if made into carbonic acid would be equivalent to 200 to 400 c.c. of concentrated hydrochloric acid—a very striking figure.

Acidosis occurs as a complication of diseases, too many and numerous to mention in their entirety here. We mention a few of them: diabetes mellitus, conditions necessitating total or partial starvation, pernicious nausea and vomiting (especially that accom-

*Presented by Invitation to the Sampson County (N. C.) Medical Society, meeting at Clinton, December 3rd, 1930.

panying pregnancy), post-operative acidosis, cyclic vomiting of children and conditions marked by prolonged diarrhea. It occurs in the patients of the general practitioner, in those of almost every kind of specialist. The surgeon meets it post-operatively, the internist in diabetes mellitus and other conditions, the obstetrician in pregnancy, the pediatrician in persistent diarrheas and vomiting of children and so on.

MECHANISM OF ACIDOSIS

There are two main types of acidosis, first, the acetone type and, second, the acid-ash type. When food is burned in the muscles of the body, an ash results of the same type as that found when food is burned outside the body. Normally sugars, starches, fats and the greater portion of proteins are burned to carbonic acid. This is classed as a respirable or volatile acid. It has no effect on the alkaline balance of the body so long as it is promptly eliminated. Besides this carbonic acid, the oxidation of all foods produces an ash (non-respirable) which may be neutral, acid or alkaline. The soluble content of this ash is excreted largely by the kidneys. If acid-ash foods predominate in the diet, and if the ash is not properly eliminated, it will gradually reduce the alkalinity of the body and produce acidosis. Excessively acid urine usually means either over-consumption of acid-ash foods or under-consumption of alkaline-ash foods. The taste of food is no guide to its final reaction in the body. The sourest lemons, grapefruit, or oranges prevent acidosis, and breads which taste neither acid nor alkaline are one of the most potent factors in producing a serious acidosis.

The acid-ash foods should always be balanced by adequate amounts of alkaline-ash foods. Among the acid-ash foods are cereals, breads, meats, eggs and fish. When the urine is excessively acid, many of them should be omitted, at least for a time. In certain diseases, such as blood-vessel disease of which high blood-pressure is a common symptom, they should be reduced to a minimum or omitted altogether.

Regarding the alkaline-ash foods in general, all vegetables, nuts, fruits (with the exception of prunes, plums and cranberries) and milk are alkaline in their full final reaction in the body. The acidity of prunes, plums and cranberries is inconsequential except in certain serious disease conditions.

We have all seen patients of high intelligence who were sure that some definite bodily ailment of theirs was due to "too much acid." Some of us have seen physicians who were convinced that all fruits acid to taste produced an acid condition of the normal body, and who said that oranges or grapefruits gave them rheumatism-like pains, a general bad feeling and perhaps some other vague symptoms. If such an acid intoxication were possible and if it could be classified, it would have to be called the acid-ash type.

Of the two types the acetone type is by far the most important. It is almost always preceded by some bodily disease, of which diabetes mellitus is by far the most conspicuous. In diabetes it is frequently the cause of coma and death in severe or mismanaged cases of that disease. It occurs, also, in a non-diabetic group of conditions. In this day, so conspicuously characterized by the intense and burning desire on the part of our women for slim figures, the physician is being faced with a new problem—that of prescribing for obese patients a safe procedure whereby they may safely reduce their weights. Reducing diets must be surprisingly low in calories, because fat individuals need little food. This reduction in calories must be made by the elimination of carbohydrate. For every unit of weight which a patient may wish to lose, and for every unit of fat included in his diet, he must eat an equal amount of carbohydrate. This is so true that it has led to the aphorism:

To lose a pound of weight safely one must eat a pound of carbohydrate.

On nearly fat-free diets of only 1000 calories, plus an adequate amount of exercise, it has been shown that one can lose as many as 20 pounds per month. This type of acidosis very commonly reaches a serious stage when obese individuals, either from realizing the seriousness of overweight, or because of vanity, attempt to lose weight too rapidly.

We will mention only two or three other disease conditions; post-operative acidosis, acidosis occurring in cyclic vomiting of children, that brought on by pernicious nausea and vomiting of pregnancy, or most any other condition characterized by starvation or semi-starvation. A severe degree of the acetone type of acidosis commonly occurs in children. Many diseases of childhood manifest their onset by severe nausea and vomit-

ing. In the presence of fever a child has a markedly increased caloric consumption which, because of the impaired appetite and the vomiting, must be supplied largely from the body fat and protein. Then, although the initial cause of the nausea may cease to act, the resultant acidosis causes the vomiting to persist, sometimes to a temporarily uncontrollable degree, and on this principle a vicious circle is established and the condition continues to go from bad to worse. Given a child with dyspnea and with little or no fever and no other condition to explain the shortness of breath, suspect acidosis. Given a child with muscular twitchings and with little or no fever and no other condition to explain the condition, suspect alkalosis and give acids.

Acidosis of this type and under these circumstances results when there is insufficient utilization of carbohydrates by the body to completely oxidize the fats and the incomplete combustion of these results in the formation of by-products—ketones. During starvation and in proportion to its severity, the body is sustained by the consumption of its own fat and protein. Fat, unbalanced by sufficient carbohydrate, gives rise to the acetone type of acidosis in varying degrees of severity. Fats burn in the fire of the carbohydrates, and in diabetes and other conditions of partial starvation where there is insufficient utilization of carbohydrates the fats are incompletely burned and acid bodies result represented chiefly by acetone, betahydroxybutyric and diacetic (acetoacetic) acids. There is an altered metabolism and, for some unknown reason, the body is not capable of oxidizing the fatty acids beyond the fourth carbon chain, a process which the normal body can do. The acetone type of acidosis resulting from any of the named conditions necessitating partial starvation has exactly the same mechanism in its production.

DIAGNOSIS

The classic picture of severe acidosis is made up of hyperpnea, anxious expression, irritability, restlessness, staring and sunken eyes, irrationality, vomiting and even convulsions. This chain is, I am sure, familiar to each one of you, but the diagnosis should be made prior to the appearance of this picture. If acidosis has developed well an acetone odor may be detected on the breath and acetone and diacetic acid in the urine.

Diagnosing acidosis in its early stages is dependent upon certain laboratory procedures the majority of which unfortunately are not well suited for general application by the general practitioner. The tests in most general use for this purpose are the following:

(1) Sellard's bicarbonate test is one simple, easy to conduct, and very satisfactory. Give 3 to 5 grams of sodium bicarbonate dissolved in water, every 4 or 5 hours until the urine becomes alkaline. The following figures represent approximately the degree of acidosis.

1 to 5 grams produces an alkaline urine in normal persons.
10 to 20 grams indicates moderate acidosis.
30 to 50 grams indicates more marked acidosis, but no clinical symptoms have developed except possibly dyspnea on exertion.
75 to 100 grams indicates severe acidosis.
100 to 150 grams indicates extreme acidosis.

(2) Titrating the alkalinity of the blood. No simple and accurate method is available.

(3) Measuring the carbon dioxide combining power of the blood. This is probably the best and most reliable of all tests. The carbon dioxide combining power is always decreased in acidosis. An applicable technic for performing the test is that of Van Slyke and Cullen.

(4) The determination of the carbon dioxide tension of alveolar air. The tension is always decreased in acidosis. A simple and very convenient technic for performing this test is that described by Marriott.

(5) Tests showing excessive formation of acids in the body.

(a) Detection of abnormal acids in the urine. This is not very reliable, because abnormal acids may be found in conditions other than acidosis, as in alkalosis for instance.

(6) Detection of excessive elimination of acids which pre-supposes excessive formation.

(a) Such as detecting in the urine the increased elimination of ammonium salts. These are formed by the interaction of the acids and the ammonia of the body. This test is also not a very reliable one.

(7) Titrating the total acidity of the urine. This is not a reliable test because the ability of the kidney to secrete an excess acid is limited, especially in nephritis.

(8) Determination of the *H*-ion concentration of the blood. This also does not give any information of any value, because the *H*-ion concentration of the blood does not change any until the acidosis is severe.

TREATMENT

Diet plays the most important part in the treatment of the acid-ash type of acidosis. To

prevent this individuals must balance their diets with ample amounts of fruits and vegetables. Less bread should be eaten, and more milk should be used instead of so much meat, fowl, eggs and fish. Individuals who are engaged in hard, manual labor will find beans especially valuable, both because of their high alkaline-ash and because of their nutriment.

Sodium bicarbonate may be used freely in most cases in level teaspoonful doses, repeated often. Sansum of the Potter metabolic clinic of San Francisco tells his patients that they should always use soda liberally whenever in their experience they have found that it relieves them; but, if they must continually take soda, it is proof that their diets have not been properly balanced. The universal use of baking soda not only indicates indirectly how general is the condition; but, the relief it affords is proof of its efficacy in the treatment.

The treatment of the acetone type of acidosis should be directed toward the underlying condition or disease producing it, and in all cases the thing of prime importance is a regulation of the diet, replacing those foods which leave an acid residue with foods which leave an alkaline residue. The acidotic condition presenting the biggest treatment problem is the one accompanying diabetes mellitus, because the underlying cause cannot be corrected.

Of the non-diabetic group, such as post-operative acidosis, acidosis of children and acidosis of pregnant women the treatment is more satisfactory. In these cases where the acidosis is too severe, or the stomach is too irritated and rebels against the diet and the oral administration of alkalis, the insulin: glucose therapy is an important addition to the treatment. The administration of glucose alone is sufficient to clear up many cases of mild acidosis, but a combination of the two is more effective in the production of beneficial results. Giving the glucose alone would not be effective in some cases, because the body would not be able to assimilate the carbohydrate, whereas if insulin was given combined the assimilation would be insured. Probably the best method for administering the glucose is intravenously in a 10 per cent solution, the quantity given depending upon the severity of the acidosis— $\frac{1}{2}$ to 5 quarts in

24 hours. The insulin is given either subcutaneously, alone, or added to the sugar solution in the proportion of 1 unit for each 2 or 3 grams of glucose. The insulin:glucose treatment has been routine for all acidotic patients at the Charity Hospital, New Orleans for two years and they report that they yet have to see a case that did not yield to the procedure.

Acidosis constitutes as universal and constant a chemical menace to the life of our tissues as bacteria do a biologic one. The human tissues in general require, as constant conditions of their life, that they be bathed in an alkaline fluid.

—Cornwall.

DIPHTHERIA—PELLAGRA—SMALLPOX

(U. S. P. H. S.)

The case and death rates for diphtheria have been decreasing for many years, and in the calendar year 1929 these rates reached new low records. Forty-five States reported 71.4 cases of diphtheria and 6.6 deaths per 100,000 population. Ten years ago, 37 States reported 137 cases of diphtheria per 100,000 population, and the diphtheria death rate in 32 States was 13 per 100,000. These were low rates at that time, but the 1929 rates are nearly 50 per cent lower. There is no doubt that the use of antitoxin and immunization against diphtheria has contributed to the remarkable decline in the number of diphtheria cases and deaths. If these agencies had been more generally used, the improvement would have been greater.

The prevalence of pellagra has been increasing for several years. In 1924 the pellagra death rate computed from reports to the Public Health Service was 2.5 per 100,000 population. The rate rose steadily until 1928, when it was 5.7 per 100,000 (based on reports from 45 States). For the calendar year 1929 the pellagra death rate was 5.5 per 100,000 population. [Indications are that the 1930 rate is much higher.—*Edr.*]

Forty-five States reported 34,685 cases of smallpox in 1927, 38,114 cases in 1928 and 41,458 cases in 1929. The disease was of the mild type and in the 45 States only 442 deaths were recorded during the three years; yet, the 114,000 cases of smallpox represent an incalculable amount of suffering and a large economic loss to the country, all of which could have been avoided by vaccination and revaccination. One danger in smallpox lies in the fact that the virulent type of the disease may appear at any time in a community not protected by vaccination, and before the disease can be checked take many lives.

Some Remarks on Lung Suppurations From the Bronchoscopic Standpoint*

V. K. HART, M.D., Charlotte, N. C.

From The Charlotte Eye, Ear and Throat Hospital

Lung suppurations are rather commonplace; more prevalent, certainly, than usually appreciated. Bronchoscopy has an important place in the diagnosis and treatment of these patients. Although medical and general surgical therapeutics are equally important, discussion here is restricted as far as possible to the endoscopic aspects.

First, the diagnosis must be made. The history is of the utmost importance. Of particular significance as etiological factors are these: 1. Recent respiratory infections such as influenza and pneumonia. 2. Recent general anesthesia. 3. Foreign body. 4. Chronic nasal suppuration with postnasal discharge.

Is there a lung suppuration?; if so, what part of the lung is involved?

Under direct vision the bronchial tree always shows characteristic findings in a sup-puration, *viz.*, reddening, thickening, and frank pus on the side of involvement. By rapidly aspirating and sponging, the pus will be seen to appear from the bronchial orifice of the lobe involved. This is of great help, because even stereoscopically it is sometimes very hard to differentiate between two lobes by x-ray; particularly between the right middle and lower lobes. Sometimes a diffuse bronchial infection is present without definite localization, a laryngo-tracheo-bronchitis.

If doubt exists in the bronchoscopist's mind as to the exact nature and location of the process, lipiodol may be instilled into the bronchus of the suspected lobe after very careful cocainization (one cough after instillation will ruin a plate), and chest plates quickly taken.

Thus, consider plate II. This is of an adult woman, 38, with cough and expectoration following an attack of what was supposed to be pneumonia. She had been treated for a lung abscess for one year before being seen. Bronchoscopy revealed no change in the bronchial tree. About 40 c.c. of lipiodol were instilled into the left lower main bronchus, the abscess having been diagnosed as in the left lower lobe. The plate showed entirely nor-

mal lung structure, and an ankylosed diaphragm. This patient, then, had old pleural changes, despite previous negative pleural aspirations.

On the other hand, there may be a definite disease of one lobe. Patient No. 2 showed this. He was a man of 30 with a history of general anesthesia six weeks previously, at which time a tonsillectomy was done and a periostitis of the arm was opened. He developed a cough and high temperature shortly before admission and lost 35 pounds in weight. Bronchoscopy showed a reddened, thickened right main bronchus, particularly about the orifice of the right upper lobe. Plate III shows uniform density of the right upper lobe. Plate IV shows remarkable clearing 24 hours after bronchoscopic aspiration. Aspirated secretions and an intradermal tuberculin test (1/100 mgm.) were negative for tuberculosis.

This patient had four bronchoscopies at intervals of two or three weeks and improved markedly. However, one year later, he is under the care of an internist for a typical, clinical case of mild tuberculosis.

The case of patient No. 3 was not so easy of interpretation, presenting some baffling aspects as to diagnosis. She was a woman of 23, with a history of productive cough for one year, following an acute infection of an influenzal nature.

Bronchoscopy showed some reddening of the whole right bronchial tree. The absence of frank pus was puzzling. Fluoroscopy showed a definite fluid level. Furthermore, after lipiodol instillation into the lower posterior bronchus, none entered what was apparently a cavity. Plate No. V shows this beautifully.

It was thought then that there might be a walled-off empyema. With no lipiodol entering the cavity, it was obviously not a case for bronchoscopic aspiration and she was referred for surgery.

At operation by Dr. James Gibbon no disease of the pleura was found. The parietal

*Presented to the Mecklenburg County Medical Society, December 2nd, 1930



PLATE NO. I.—This plate illustrates method of bronchoscopic aspiration through bronchoscope. The long suction tube is shown inserted in bronchoscope and attached to ordinary motor driven suction machine by rubber tubing. By detaching suction, medication may be instilled through same tube. This patient being a child, no anesthesia was used. Local anesthesia is used with the adult.

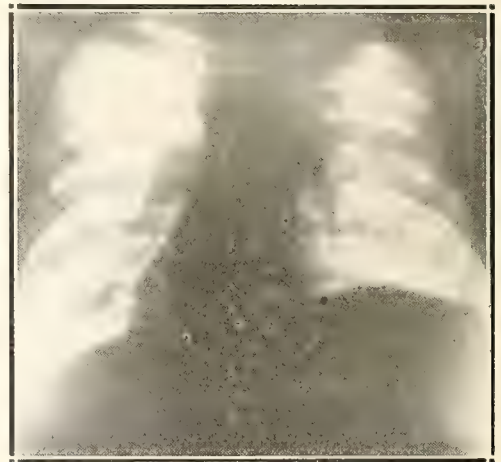


PLATE NO. II, PATIENT NO. I.—Lung abscess had been suspected in the left lower lobe. Lipiodol instillation shows normal lung structure. Note the ankylosed diaphragm as the result of old pleural pathology. Arrow points to the same. Furthermore, the lung structures can be traced to the diaphragm.

PLATE NO. III, PATIENT NO. II.—Note the uniform density of the right upper lobe. Lipiodol was not used for this plate.

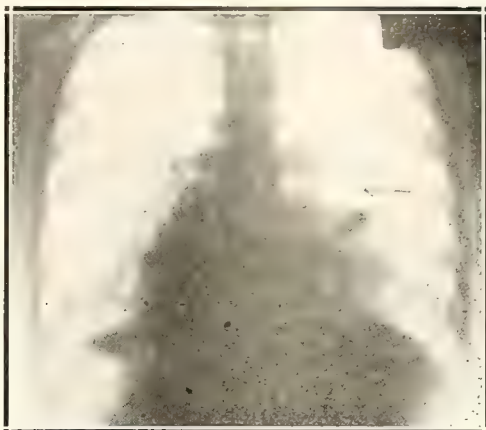


PLATE NO. IV, PATIENT NO. II.—Note the remarkable clearing in the right upper lobe 24 hours after bronchoscopic aspiration. The lower densities are caused by residual lipiodol which has filtered into lower lung areas and show normal lung structure.

PLATE NO. V, PATIENT NO. III.—The arrow points to what appears to be an abscess in the lower posterior lobe, right. Surrounding this area is lung tissue filled with lipiodol, but none enters the area. Two dilated bronchi also show below the supposed pathology.

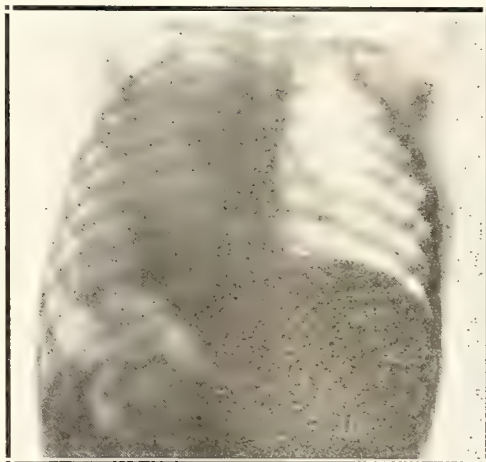


PLATE NO. VI, PATIENT NO. IV.—The arrow points to multiple clubbing of bronchi in the right lobe tantamount to a multiple bronchiectasis. This could, of course, only be demonstrated after lipiodol instillation. This patient has had a phrenicectomy which combined with repeated bronchoscopic aspiration has greatly improved his condition.

PLATE NO. VII, PATIENT NO. V.—Diffuse suppuration of whole left lung following aspiration of small pieces of walnut. Lipiodol was not used here. This process is equivalent to a diffuse suppurative pneumonitis. If not relieved, actual breakdown of tissue occurs with either a bronchiectatic or extrabronchial abscess.

pleura was sutured to the visceral pleura over the area and packed, with the idea of doing a two-stage operation. Before the second stage the abscess ruptured and drained, showing its peripheral character. She had a rather stormy convalescence, but six months after operation she was convalescing with a healed wound. Apparently the abscess was of such long standing that scar tissue had walled it off, with consequent failure to fill and incomplete emptying.

Patient No. 4, a man of 45, had had cough and expectoration for several months. The only exciting cause in the history was an influenza. Bronchoscopy showed a thickened and reddened right main bronchus with the lower lobe bronchus almost closed by thickening of the mucous membrane and granulation tissue. Biopsy showed only pyogenic granulation tissue. Foul pus was aspirated below this area. This was negative for tuberculosis or a fuso-spirochetosis and showed a mixed infection.

Lipiodol was then instilled. A rather interesting multiple bronchiectasis is shown in plate No. VI.

This patient is still under treatment. Every two or three weeks he gets blocking, pain and sometimes fever. The bronchoscope is introduced, the obstructed bronchus dilated, foul pus aspirated, some medicament such as gomenol instilled, and he is immediately relieved.

In eight months he has had twenty bronchoscopies with the treatment outlined. He has become fever-free and gained weight, and resumed partial work. This patient may yet go to radical surgery, but is loath to do so unless absolutely necessary. However, he has recently had a phrenicectomy done by Dr. Thomas Sparrow which, by immobilizing and partially collapsing the lower lobe, greatly enhances his chances for complete recovery. He will still have to be occasionally subjected to bronchoscopy if he gets blocking.

Patient No. 5 is presented because he shows the remarkable benefit of bronchoscopy in what is called a drowned lung. He was a child of $2\frac{1}{2}$ who two weeks before had aspirated some small pieces of walnut. He was admitted with high fever and prostration. The x-ray report: "The left lung is apparently filled with fluid (the so-called drowned lung) along with a partial collapse

as indicated by the displacement of the heart toward the left. Probably due to a foreign body in the left main stem bronchus."

Bronchoscopy showed a diffuse and severe infection of the whole left bronchial tree; no foreign body was found. Simple suction aspiration was done. This was repeated four days later, and again in nine days with rapid clearing of the whole process. The accompanying plates (Nos. VII and VIII) show this prompt response to treatment. The child made a complete recovery and has remained well to date, one year later.

The case of patient No. 6, a boy of 4, is inserted here because it illustrates another drowned lung caused by complete blocking of the left main bronchus by a nail (head shown). The child was septic with high fever. Plate No. IX shows the lung condition. Plate No. X illustrates the quick recovery 24 hours after removal.

COMMENT

Spector,¹ in discussing the medical aspects of lung abscess, divides them into: 1. Bronchiectasis, as following an operation on the upper respiratory tract. 2. Extrabronchial when in the parenchyma. Such would follow pneumonia or infected emboli. 3. Those that result from widespread infection by way of the air passages are called suppurative pneumonitis.

Various types of organisms are found, *viz.*, pneumococcus, streptococcus, staphylococcus, colon bacillus, Hoffman's bacillus, micrococcus catarrhalis, various types of fungi, and fuso-spirochetosis.

The latter infection, the same as causes Vincent's angina, is supposed to give a gangrene of the lung. Arsenic has been used intravenously in the treatment of this type, but Jackson² states that this type will also respond to bronchoscopic treatment.

Clerf³ reviews 77 cases of lung abscess following tonsillectomy; 38 made complete recovery and 7 were improved with bronchoscopic treatment.

Certainly surgery is attended with a very high mortality in the acute stages. The patient should first be given the benefit of medical or bronchoscopic treatment or both.

The best therapeutic results in this clinic have been obtained where a bronchus is obstructed by a foreign body or granulation tissue. Very encouraging results have also been gotten in other types of lung suppura-

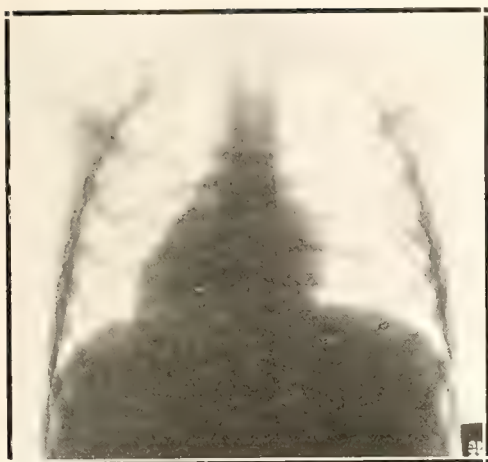


PLATE NO. VIII, PATIENT NO. V.—Complete recovery after 3rd bronchoscopic aspiration.

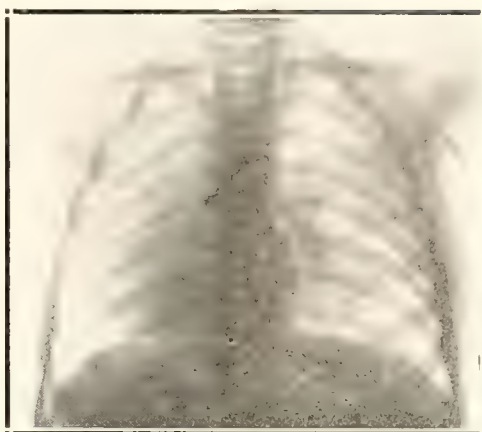


PLATE NO. IX, PATIENT NO. VI.—“Drowned” lung caused by nail head down in left main bronchus. Here again is a diffuse suppurative pneumonitis due to mechanical obstruction.

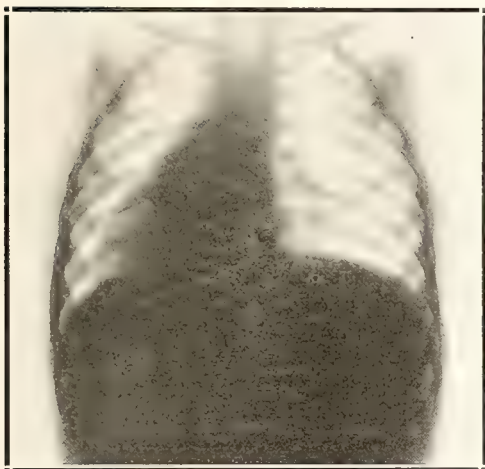


PLATE NO. X, PATIENT NO. VI.—Complete clearing 24 hours after removal.

tion by simple, repeated aspiration. Bronchoscopy is also of great diagnostic value as to the site and extent of the disease process.

In the case of a complete obstruction, there is of course retention of secretions, bacterial decomposition of these secretions, and partial absorption of air. This gives the picture of drowned lung, and what is tantamount to a diffuse suppurative pneumonitis. Unless promptly relieved this process may go to ulceration and the formation of a bronchiectatic or extrabronchial abscess.

SUMMARY

Six cases of various types of chest disease have been presented. The first patient was supposed to have a lung abscess until proved otherwise by bronchoscopic study.

The second and third cases represented the extrabronchial abscess. The first patient apparently was helped over the acute stage by bronchoscopic treatment but later developed a clinical picture of tuberculosis. The other, because of walling-off by scar tissue, went to radical surgery. More could probably have been done for this patient bronchoscopically had she been seen earlier.

The fourth patient had a multiple bronchiectasis and represents the bronchiectatic abscess, probably multiple, of one lower lobe. This patient, though not well, has improved markedly after eight months of bronchoscopic treatment combined with a medical regimen and phrenicectomy. Granulation tissue tended to obstruct drainage and dilatation of the bronchus has greatly facilitated drainage.

The fifth patient had a drowned lung following aspiration of small pieces of walnut. No foreign body was found; it probably underwent liquefaction with inflammatory closure of both left lobe bronchi. Complete recovery followed three bronchoscopic aspirations with local treatment of the left main bronchus. Such a case probably represents a true pneumonitis.

The sixth case represents complete block-

ing of the left main bronchus by a metallic foreign body with a secondary drowned lung. Complete recovery followed removal.

Bibliography

1. SPECTOR, H. I.: Lung Abscess. A Clinical Study with Especial Emphasis on Conservative Treatment. *Jour. A. M. A.*, 95:7 and 9 (Sept.) 1930.

2. JACKSON, CHEVALIER: Bronchoscopy and Esophagoscopy, Philadelphia and London, *W. B. Saunders Company*, 1927, p. 313.

3. CLERF, LOUIS H.: Pulmonary Abscess Following Tonsillectomy. *Archives of Otolaryngology* 11; 192 (Feb.) 1930.

Intussusception*

Report of a Case

W. H. C. WHITE, M.D., Elizabeth City, N. C.

Intussusception usually takes place forward or downward but may occur upward or backward, then being known as a retrograde intussusception. It may occur in any period of life, though it is exceedingly rare in the adult. It is the commonest abdominal emergency in children under two years of age, and by far the most common cause of intestinal obstruction in children, accounting for about 56 per cent of all obstructions between the ages of four months and 10 years. It usually attacks healthy well-nourished bottle-fed babies, and overfeeding or dietary errors may be factors in its production. In adults the common predisposing causes are tumors of the wall of the bowel and Meckel's diverticula. Franklin W. White and I. R. Jankelson¹ in 1928 reported two cases of late intussusception of the bowel into the stomach after gastro-enterostomy, and in reviewing the literature were able to find only 18 other cases, only one of which was in America.

The ileo-cecal form in which the ileo-cecal valve prolapses into the cecum and drags with it the ileum and its mesentery is by far the most common type; especially in children. Sometimes an intussusception invaginates itself into another piece of bowel and this may even fold itself into a third piece of bowel, giving a multiple intussusception. These are important in that they are very difficult to reduce and the inner fold of bowel is very likely to be gangrenous. Also we may find two or more intussusceptions in different parts of the bowel, which condition, though very rare, is

exceedingly important to remember, else a second obstruction may be overlooked. Perrin and Lindsay² in the *British Journal of Surgery* classify 400 cases according to type, as follows:

	Cases	%
Ileo-cecal	156	39
Ileo-colic	126	31.5
Enteric	27	6.75
Colic	19	4.7
Meckel's	5	1.2
Compound	4	1
Retrograde	2	.5
Appendiceal	1	.2
Jejuno-gastric	1	.2
Unclassified	59	14.7

Of these, 272 cases (68 per cent) were in males as against 128 cases (32 per cent) in females, a ratio of about two males to one female.

The etiological factors may be mechanical or dynamic. In adults the mechanical factors are seen as direct causative agents. A tumor of the wall of the bowel may be dragged along and through its attachment drag the bowel into an invagination, and once started the intussusception tends to excite peristalsis which in turn increases the invagination. Other mechanical factors are ulcerations and diverticula. In infants—and it is here that we are most interested, for intussusception is rare except in infants and small children—the exciting cause is seldom discovered, but a mobile cecum, developmental defects of the cecum, and long mesocolons all

*Presented to the Seaboard Medical Association, meeting at Elizabeth City, N. C., December 2nd, 3rd and 4th, 1930.

favor the formation of invaginations, which are frequently started by dietary errors, active purgation, or violent jolting. Perrin and Lindsay² contend that in infants the determining factor is the production of the equivalent of a foreign body within the intestine. The foreign body is provided by swelling of the pre-existing lymphoid tissue induced by some gastro-intestinal disturbance. In primary colic intussusception an important factor is the relative narrowness of the colic lumen in early life. E. J. Lamb³ in the *American Journal of Diseases of Children*, Nov., 1928, reported a case of enteric intussusception due to papilloma in a child 21 months old. He was able to find only one other similar case in reviewing the literature for the previous 25 years, that being a case of recurrent enteric intussusception in a girl 6 years old, reported by Barrington Ward.⁴ This case had recurred three times; at the fourth operation some small tumors were felt inside the bowel and ten inches of the ileum was resected, the patient recovering and having no further trouble. The tumor was found to be an adeno-papilloma.

The pathology often found in these cases at operation seems all out of proportion to the high mortality commonly reported. In Birgfeld's⁶ series of 51 cases in which operative procedure was necessary the mortality was 45 per cent when operated on within 12 hours, 80 per cent when relieved by operation within 24 hours, beyond this the mortality was 100 per cent. In reviewing the literature the work of Hipsley⁴ stands out above all others; he had 51 cases without a fatality, all having been operated on within 36 hours of onset of symptoms, which is indeed a brilliant achievement. Brown⁴ reported a mortality of 64 per cent among the 31 cases admitted to the Children's Hospital in Philadelphia from 1915 to 1924. The pathologic changes which we find in the bowel are due to the cutting off of the circulation, though here, in contrast to the condition found in a strangulated hernia, the necrosis starts at the head of the intussusception and is due to the compression of the mesenteric vessels, the venous circulation being interrupted first, as a result of which there is a rupture of some of the veins and capillaries with free blood in the lumen of the bowel, giving us one of our first and most important signs. If this condition is not

relieved the process of necrosis goes on until perforation takes place with resultant peritonitis, more often, however, the extreme obstructive toxicity, with shock, proves fatal before the necrosis perforation and peritonitis have developed.

Intussusception is characterized by the dramatic suddenness of the attack, the healthy robust baby being affected as often as the puny one. The first sign of illness is usually an abrupt and severe attack of abdominal pain, which causes the baby to scream out, drawing up his knees. The pain leaves as suddenly as it came. These spasmodic pains recur every few minutes, between which there is relative comfort, the patient sleeping or playing as though nothing were wrong. With each spasm of pain there may be vomiting of small amounts and during one of the first attacks there will be a large normal bowel movement, the emptying of the colon below the obstruction. The temperature at first is normal, or subnormal. The leucocytes are normal until peritoneal changes begin to take place. At this early stage the abdomen is soft and flat, peristalsis may be increased, but usually not between the attacks. The first bowel movement, normal in character, is soon followed by the passage of blood and mucus, and this sign—blood and mucus, unmixed with feces—is our most conclusive evidence that we are dealing with an intussusception. At this stage or a little later careful examination of the abdomen will reveal the classical sausage-shaped, doughy mass, which clinches the diagnosis. However, the mass may be hidden under a lobe of the liver or for some other reason be not palpable. Hess⁵ records the presence of a tumor in 183 out of 197 cases in the literature. Out of 94 of his cases; the tumor was found in the right iliac region in 10 cases, in the right hypochondriac region in 13 cases, in the region of the transverse colon in 14 cases, in the left hypochondriac region in 7 cases, in the region of the descending colon in 12 cases, in the left iliac region in 24 cases, and in the region of the umbilicus in 13 cases. Soon the severity of the attack and dehydration bring on shock, with pallor and a hollow-eyed appearance. The symptoms are caused by purely mechanical factors, the intussusception from whatever cause, is essentially a foreign body in the bowel, which nature tries to expel by increas-

ed peristalsis, thus causing the colicky type of pain. As the bowel tires out the pain subsides, giving the intermittent intervals of comfort. The mass cannot be dislodged, and reversed peristalsis with vomiting is the result. The mass becomes tighter, and extravasated blood and mucus are passed. Later in the illness the temperature rises, the pulse increases, leucocytosis and rigidity appear, which means that peritonitis is developing.

There are six cardinal points in the diagnosis of early intussusception:

1. Pain, sudden, severe and intermittent.
2. Early nausea and vomiting. (Hess found this present in 166 out of 170 cases.)
3. Stools of pure blood and mucus in varying amounts, following soon after one or two normal bowel movements.
4. A sausage-shaped tumor, palpable in more than half the cases.
5. Normal or subnormal temperature with a normal leucocyte count.
6. Prostration, sudden, profound, and out of proportion to the other symptoms.

In the differential diagnosis other forms of obstruction, acute appendicitis, and chronic colitis have to be considered. Other types of obstruction such as volvulus, strangulated hernia, and adhesions are rare in children, besides they have their own characteristic features and give few of the classical signs of intussusception. Acute appendicitis, though often very difficult to diagnose in a small child, usually gives us a rigid muscle over the seat of trouble, no tumor and an early high leucocytosis in contrast to intussusception. Some cases of chronic colitis are very difficult to differentiate, but the longer period of illness, the less sudden onset and, most important of all, the mixture of feces with blood in the case of colitis in contrast to the complete obstruction with passage of pure blood in intussusception, tend to differentiate these two conditions. Ballin and Morse of Detroit report a case of intussusception complicating visceral or Henoch's purpura, and in their conclusions say that an intestinal purpura with paresis of the bowel and the passage of blood may simulate an acute intussusception. In selected cases the x-ray may be of great diagnostic value, however, in the presence of several of the cardinal signs, especially if the sausage-shaped tumor be found, we are not justified in further delaying treatment by

making an x-ray study. Altschul,⁶ from an x-ray standpoint, gives three types: temporary, constant but loose, and constant firm invaginations. The second, or constant but loose, type is the only one suitable for a roentgenological diagnosis. In this type it is possible, not only to visualize the barium enema as it fills sharply up to the lower end of the invaginated bowel, but in some cases to see the outline of the barium after it has filtered between the head of the invagination and the invaginated bowel.

The treatment of intussusception is surgical. Attempts at reduction by water or air enemas are dangerous, are rarely if ever successful, and are never justifiable. However, there are still some advocates of the enema method of reduction, and it may be well to mention them here if only to condemn them. In using either enema method we are working absolutely in the dark, there is danger of rupturing the bowel, already greatly weakened at the site of the obstruction, and there is danger of partially reducing the obstruction, which thus left, will re-invaginate; and failure, which usually happens, has used valuable time that might have been put to better use when early diagnosis with prompt relief is essential to recovery. The percentage of recoveries varies inversely with the number of hours of illness before reduction has been accomplished. In chronic incomplete intussusception or very early before the appearance of the cardinal signs, the barium enema given under fluoroscopic observation is of value. The actual obstruction point can be seen, the pressure is controlled as in case of the water enema by elevation of the reservoir, the reduction, if it occurs, can be followed and determined whether complete or partial. When the obstruction is in the small bowel the use of enemas is quite illogical. Sir Berkeley Moynihan⁸ says, "to operation there is no alternative, the methods of inflation are haphazard and dangerous, and have rightly been abandoned."

These children are depleted of fluids by frequent vomiting, and it is wise to administer subcutaneous saline to the axilla or loins. The child should be kept warm and the anesthesia as brief and as light as is consistent with good quick surgery. But it is better to have the patient deep enough under so that you do not have to maul the bowel to keep

it within the abdomen. In few other types of surgery is it so necessary to do as little as possible and get out, and in the average case it is not wise to attempt to fix the cecum, for the thorough reduction of the intussusception leaves an edematous, thickened bowel which is the best guard against recurrence. In some of the enteric cases it may be necessary to reduce mobility by taking a long pleat in the mesentery. Unless the diagnosis has been made early and the patient's condition is good the appendix should not be removed. If the case is not more than 36 hours old complete reduction can usually be accomplished without mishap. Hot compresses with moderate pressure will often make an otherwise difficult and seemingly irreducible mass readily unfold itself. Should the parietal peritoneal coat be split it should be sutured with fine catgut to prevent bacteria spreading from the bowel. It is very important to carefully iron out the bowel at the point where the invagination began.

At this stage there is a variance of opinion as to whether anything further should be done. If there is unusual mobility of the cecum, the condition of the bowel and the patient's general condition permitting, some surgeons recommend suturing the cecum and the ascending colon to the peritoneum of the right iliac fossa, in an attempt to prevent recurrence. If the intussusception has been an enteric one the mesentery may be folded upon itself by suture with the object of eliminating that undue length of the mesentery. This method was first used and recommended by McGregor⁷ of Glasgow. He says that its effect is two-fold, first, the shortening of an unusually long mesentery, which is one of the admittedly common predisposing causes, and, second, that the three-ply of mesentery may act as a splint to prevent the doubling in of the bowel at the seat of the old lesion. The above procedure will take care of the early case, the case that has been diagnosed and operated on within 36 hours. It is the late diagnosed case that taxes the skill of the best surgeons, and in which we have and will continue to have our high mortality rate. According to Richter in Abt's *Pediatrics*, "three factors must be considered, (1) that gangrene is impending at the site of the obstruction; (2) that the distended bowel above the obstruction is filled with toxic contents; and

(3) that the pressure of contents from above adds to the local damage of the bowel wall and that the relief from this tension will tend spontaneously to reduce the harm." If the invagination cannot be reduced we have several courses open. If irreducible but not gangrenous, the intussusception may be ignored, a short-circuiting operation being performed, the bowel above the mass being anastomosed with that below. This, as a rule, is permissible only in cases of chronic intussusception where gangrene is neither present nor feared. If irreducible and gangrenous one of three operations may be performed. (1) Enterostomy without resection is probably the best method of treating a neglected intussusception. Even this method carries a very high mortality. The enterostomy should be made well above the obstruction in a section of normal bowel. The evacuation of the bowel through the enterostomy tube, the flushing out of the highly toxic bowel contents with saline and the reduction of the pressure above the obstruction give marked and almost immediate relief. This short, simple procedure may act as a lifesaver to tide over a very toxic patient for several days, after which, if the intussusception has not reduced itself, a resection can more safely be performed. (2) The so-called Jessett operation was first described by the originator in 1892 and put into practice during the same year by Barker of London. Barker's description of this operation taken from Moynihan's *Abdominal Operations*.

"At the point at which the intussusciens receives the intussusceptum, the two portions of the bowel are at once united by a continuous circular suture of fine silk, taking up the serous and muscular coats of each, and carried on to the mesentery. A longitudinal incision is then made for about two inches through all coats of the intussusciens on its free margin. This gives access to the sausage-like intussusceptum within. The latter is then drawn out through this incision, and is cut across close to its upper end, or, if too long to be first drawn out, it may be cut across in situ. A few stout silk sutures are, however, passed through all the walls of the stump as the mass is gradually cut off, and are tied tightly so as to keep the serous surfaces in contact and control all bleeding from the vessels entering it at its mesenteric attachment. The stump is now cleansed, dried, and dusted with iodoform, and is allowed to drop back through the incision into the lumen of the intussusciens. Then the longitudinal incision in

the latter is closed by a continuous suture from end to end."

In the 3rd method, the whole mass may be excised and an end-to-end or lateral anastomosis performed. It is a well known fact that these little patients do not well stand a resection and the high mortality of cases thus treated bears this out. The post-operative care is the same as for any other abdominal operation in a toxic child of this age: saline subcutaneously, keeping up the body heat, or if the temperature rises too high, colonic irrigations with tepid water. In a simple reduction case glucose solution may be given by mouth as early as six to eight hours. For a breast-fed baby the milk should be expressed and given in teaspoonful feedings every two hours for another 12 to 24 hours, then to breast for 5 to 10 minutes every three hours, gradually increased until back on its regular schedule of feeding. Cathartics are withheld for from 5 to 7 days, a small rectal washing may be used if necessary before this time. Opiates are dangerous, bromides or chloral may be used for restlessness. If a resection has been performed the feeding should be more gradual.

Vomiting, if severe, is treated by repeated gastric lavages, giving glucose subcutaneously for nourishment. Obstruction is rare except when due to paresis of the bowel, and responds best to gastric and colonic lavages. If the obstruction is due to peritonitis the case is practically hopeless. Recurrence during convalescence calls for an immediate operation. Recurrence at a later date is as a rule very promptly recognized by the parents and an early operation performed. Hipsley in the *Medical Journal of Australia* and quoted by Clubbe, cites the following experiences with recurrence: One child age 5 months was operated on 3 times within 3 weeks; another child was operated on for intussusception at 3 months, 9 months, 20 months, and 25 months. Cohen reported four cases of ileo-cecal invagination which had recurred as follows: one after 30 hours, another after 4 months, another after 10 months, and the fourth after 14 months. Perrin and Lindsay² have tabulated the results of operative treatment at the London Hospital as follows:

	Mortality		
	Cases	Deaths	%
Laparotomy with reduction.....	309	69	22
Reduction with appendectomy..	18	6	33
Resection with anastomosis....	29	20	68
(All 9 recoveries were above three years of age)			
Laparotomy with attempted anastomosis or reduction.....	12	12	100
Resection with Paul's tube.....	12	12	100
Resection with Murphy's button	6	6	100
No operation	7	7	100
Total	393	132	33

Report of Case

This case is reported because of the absence of one of the most common and typical symptoms, pain which makes the little fellows scream out with agony, and soon gives the pinched expression so typical of one in great distress. This baby never cried out, but lay quiet as though in a mild stupor, stirring at intervals when he would vomit small amounts of clear fluid or when the abdomen was deeply palpated.

A 9-months-old boy, who had always enjoyed good health, breast-fed for first four months of life, bottle-fed for next five months. He was put to bed at 7 p. m. apparently in perfect health. Awake at midnight, took bottle as usual and went back to sleep. No evidence of illness during the night. Awake at 6 a. m. apparently all right except that he would not take his milk. Back to sleep and not noticed until 10, when his drowsy manner alarmed his mother and she called her physician. Before my arrival the baby had vomited small amounts of clear fluid on three occasions about 20 minutes apart, and had had a normal bowel movement. I saw the case for Dr. Kendrick and being unable to make a diagnosis at that time brought the patient and his mother back to my office for observation. On examination by Dr. Kendrick and myself the rectal temperature was 97 and examination negative except for a vague sensation of a mass in the right lumbar region. Rectal examination negative. Leucocytes 15,000. Urine negative. At 1:30 there was a bowel movement of a small amount of pure blood. At 6:30 there was another bloody stool after which abdominal examination revealed a more definite mass high in the abdomen and giving the impression of two masses, one on either side of the vertebral column. Operation was decided upon and, under ether, the abdomen was opened through a right rectus incision extending equally above and below the umbilicus. The mass, about 6 inches in length, was found in the left hypochondriac region, starting at the ileo-cecal valve and extending to the splenic flexure. Only the last two inches were difficult to reduce, the appendix finally unfolding from this

mass. The condition of the bowel and the patient's general condition both being good the appendix was removed, the stump not inverted but sutured to the posterior parietal peritoneum of the right iliac fossa in a brief attempt to anchor the cecum. Closure in the usual manner with catgut and silkworm sutures. The child made an uneventful recovery, was taken home on the 6th day and discharged as well on the 18th day.

Bibliography

1. WHITE, F. W., and JANKELSON, L. R.: Late Intussusception of the Bowel into the Stomach after Gastro-enterostomy. *The New England Journal of Medicine*, 199:1189-1193, December, 1928.
2. PERRIN and LINDSAY: Quoted from *Moynihan's Abdominal Operations*, Vol. 2, Saunders.
3. LAMB, E. J.: Intussusception Due to Papilloma in a Child of Twenty-one Months. *Amer. Jour. of Diseases of Children*, 36:1017-1019, November, 1928.
4. HILL, ROLAND: Intussusception. *The Journal of Missouri State Medical Assoc.*, 26:116-118, March, 1929. Quoted.
5. HESS, J. H.: Intussusception in Infancy and Childhood. *Archives of Pediatrics*, XXII, 655-683, 1905. Quoted from *Abt's System of Pediatrics*, Vol. III.
6. ASHBURY, H. E.: Roentgenological Aspect of Intussusception. *The Amer. Jour. of Roentgenology and Radium Therapy*, 18:536-545, December, 1927.
7. *Moynihan's Abdominal Operations*, Vol. 2, Fourth Edition, Saunders.

CAUSES OF SUICIDE

(Stearns, A. W., before Mass. Medico-Legal Society, *New England Jour. of Medicine*, Jan. 1st, 1930.)

Roman law permitted suicide provided the occasion was sufficient. One could apply to the court, state his case and be given an adequate amount of poison.

In my series of 167 cases, the predominant causes were as follows:

Mental disease (insanity)	65
Physical disease	25
Delinquency	15
Senility	9
Alcohol and drugs	9
Psychoneurosis	8
Abnormal personality	6
Domestic strife	3
Loss of employment	3
Death of spouse	3
Miscellaneous	7
Undetermined	14
	167

It is generally believed that threats of suicide are dramatic and do not result in the act. In my experience this is not true. There is a marked difference between the dramatic grandstand expressions of the hysteric and the deliberate hopeless assertions of the manic-depressive, but a large percentage of those who commit suicide have at some time discussed or threatened it.

It was proscribed by the Christian Church fairly early in its history, this perhaps having been brought about by the tremendous number of early Christians who were seeking martyrdom. Soon after, legal steps were taken to uphold the dictates of the church.

In France, as in most countries, the estates of persons committing suicide reverted to the Crown. Many legal battles were enacted attempting to keep possession of estates by disproving suicide. This led to a considerably delay. Inasmuch as the laws inflicted serious indignities upon the bodies of suicides which the law's delay hampered, solutions were prescribed for preserving bodies during long trials so that at last the law might give vent to its feelings. All of these atrocious edicts were repealed by the French Revolution. In England likewise, the estates reverted to the Crown, the bodies were buried at crossroads with a stake driven through them. The purpose of this was to prevent the evil spirit from wandering about. There has actually been one such burial in Massachusetts.

NURSES' WAGES AND HOURS

(*Lancet* (London) December 20th)

In the House of Commons on December 10th Mr. Brockway asked leave to bring in a Bill to lay down minimum wages and maximum working hours for the nursing profession. The minimum wages and maximum hours proposed were those already in operation in the best hospitals and institutions. The Bill proposed that for all nurses there should be a minimum working week of 48 hours, except in cases of emergency, where the time should be made up at a later period. The maximum wage of 40 pounds sterling per year was now paid to some probationers, 75 pounds to nurses, and 85 pounds to sisters. His proposal was that those figures, already paid in the best hospitals, should become the minimum for all hospitals. Leave was granted, and the Bill was brought in amid general cheers.

IMPORTANT NOTES ON MATERNAL MORTALITY PROBLEM

I

The natural history of puerperal infection is well understood in its larger aspects but much remains to be done. We do know, however, the danger of interfering with the natural processes of labor and of not giving sufficient time for their accomplishment.—Dr. G. W. Kosmak, before *Med. Soc. New York County*.

II

It were far better for the medical profession itself to make its own diagnosis of what is wrong with American obstetrics and correct it, than to have a "reformer" come in from the outside dragging in a lot of unpleasant notoriety with him.—Editorial *Wisc. Med. Jour.*, December.

The Newer Concept of Arthritis*

T. PRESTON WHITE, M.D., Charlotte, N. C.

Patients with rheumatism, who have been studied from every angle as to foci of infection and whose foci have been removed, with either no improvement or worsening of the condition, appeal to us almost daily for aid. The situation is well explained by the statement of the American Committee for the Control of Arthritis, which I quote in part:

"1. The Committee conceives of the disease as a generalized disease with joint manifestations.

"2. It is the opinion of the Committee that no single infectious agent or any completely defined dietary deficiency or metabolic disturbance has been conclusively shown to be the sole cause of arthritis. The Committee inclines to the belief that any one of these factors, or certain combinations of these factors, under appropriate circumstances, may basically underlie the onset of the disease.

"3. The Committee feels it of vital importance that the medical profession have its attention directed to methods of treatment of proved value which are at present at its disposal. In spite of etiological uncertainties, they feel that properly managed therapy, which takes into account both infectious and metabolic factors, has yielded results which encourage optimism and impose the obligation of further development of such methods."

Time does not permit a detailed discussion of classification or pathology; I will simply state the two classifications now in general use. First, atrophic or proliferative arthritis, which is called by the English rheumatoid arthritis. This type is thought by many to be entirely of an infectious nature. However, another group, whose belief I share, is of the opinion that infection accounts for probably only about 30 per cent, and that the infection at times is a secondary matter. Second is hypertrophic or degenerative arthritis, what the English call *osteo-arthritis*. Dividing arthritics into these two main classes will prevent many deformities, for in the former care must be taken to insure some motion of the joint daily, otherwise ankylosis may result. In the latter unlimited rest may be

given with practically no danger of ankylosis.

Many factors play important roles in arthritis. Chief among these are age, sex, fatigue (physical and mental), poor posture, foci of infection, allergy, gastro-intestinal affections including dietary errors, and exposure.

In the treatment of arthritis, we stand today where we stood 25 or 30 years ago as to tuberculosis. When we tell a patient with tuberculosis how much time it will take him to get well, we speak in terms of months or years; we must consider arthritis in terms of weeks or months, according to the severity of the condition.

Most arthritics are much below par, mentally and physically; therefore, rest is of first importance. In the acute stages, rest in bed must be insisted upon, with only enough exercise or movement, especially in atrophic cases, to prevent ankylosis. Often it is necessary to allow only bathroom privileges. Later on, a certain amount of rest in each day is of definite importance. In dealing with single joints, they, too, must be given rest, and here it is often necessary to have the help of an orthopedic surgeon. Single joints the seat of atrophic arthritis must be assured some motion.

The patient must be thoroughly combed for foci of infection and those found removed. The proper time for removal must be considered carefully. Complete recovery may be seriously delayed by the removal of foci when the general condition of the patient is at such a low ebb that no surgical procedure should be attempted. General tonic measures and rest should have prepared the patient for operation as for any other surgical procedure.

The third factor in treatment is the correction of gastro-intestinal errors. According to Pemberton, it seems to be certain that arthritics stand starches poorly. It is, therefore, advisable to lower the carbohydrate intake, though care must be taken not to lower the total caloric value rapidly. Nearly all of

*Presented to the Mecklenburg County (N. C.) Medical Society, December 16th.

these individuals need some mild laxative. The plain oils with cascara often prove of much value. With certain types of colon, which may be discovered by x-ray examination, colonic irrigation will help; this determined by the size and position of the colon, the presence or absence of haustrations, and the emptying time of the organ. It should be understood that colonic irrigations are used only in a small percentage of the patients.

Another method of treatment which is being used more and more is physio-therapy, and I cannot too strongly stress its importance. This may be divided into local heat with local massage and general massage. The result of these measures is increase in the local and peripheral circulation. Definite injury may be done a joint by little massage or heat; therefore these measures should be carried out by carefully trained individuals. The patient also may help himself with exercise, but the danger here lies in the fact that patients will try to overdo it, bringing on exhaustion which naturally slows up the period of recovery.

Last, but of equal importance with the others, comes the work of the orthopedic surgeon who must look after the body mechanics of the individual. It is he who must correct posture and properly care for the feet, and he must look after partially or totally ankylosed joints and contractures.

To these means of treatment may be added general tonic measures, plus the use of salicylates for the control of pain. In individual cases, it has been found helpful to use vaccine therapy and also non-specific protein therapy. The desiccated thyroid gland is also of value, especially in the hypertrophic type of the disease, because of the stimulation to the circulation. The dosage must be very small, for if given in the usual amount a very harmful effect will be had.

In closing, I would again like to stress the importance of thorough study, both from the standpoint of history and physical examination, and that only with the combined use of the methods outlined are we going to get the results so much desired by our patients and ourselves. Treatment from one standpoint—as removal of foci alone, vaccines alone, physio-therapy alone, diet or rest alone—is not likely to either overcome the disease or cure the patient; but a combined attack with

all these measures directed against the disease and toward augmenting the patient's resistance will produce amazingly successful results. Naturally, the sooner the patients are treated the better the results, for there is nothing that can be done for a house that is burned to the ground; the house can be saved only if the fire is put out soon after it starts.

The new twelve-story addition to the NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL on West 50th street, constructed during the past year at a cost of more than \$1,500,000, was opened Dec. 29th.

Seven floors will be devoted exclusively to clinics, while four floors are designed for private patients.

The Polyclinic was organized in 1881 and its first building was on East 34th street. There are more than 350 physicians and surgeons on the staff of the institution, and more than 30,000 student doctors from all parts of the world have taken post-graduate courses in it during the 50 years of its existence.

INDIGESTION, THE PHYSICIAN AND THE SURGEON (Alvarez, W. C., in *Southern Med. Jour.*, Jan.)

In my experience, an appendectomy is only a gamble, with the odds against the patient, when there is no history of attacks of right lower quadrant pain, perhaps with nausea or slight fever or subsequent soreness. I admit that sometimes the reckless or over-optimistic surgeon cures when the wiser, more conservative, and more honest one fails, but I would rather fail occasionally than leave behind me a trail of patients with little besides an abdominal scar to show for their money.

The wise physician will not advise operation upon all those patients with indigestion who appear to have functional troubles, or who have signs of mucous colitis, or who have been operated upon several times before, or who have only roentgen ray signs of organic disease, or who have not been studied carefully. He will avoid operations upon patients with migraine, upon those who are psychopathic or constitutionally inadequate to the strain of life, and upon those who are worn out with overwork, insomnia, or worry. He will not always advise operations even when he knows the patient has gallstones or duodenal ulcer, but will try to pick out only those patients who are likely to be benefited by the work. The finest thing that can be said of a surgeon is that he operates, not to remove a lesion, but to restore the patient to health.

The finest things that can be said of a gastroenterologist are that he does not hang on indefinitely to patients who should be in the surgeon's hands, and that he does not call in a surgeon solely to save himself from diagnostic labor.

Premature Weaning*

R. A. MOORE, M.D., Charlotte, N. C.

It is generally agreed by pediatricians that supervised breast feeding is the method of choice. Most writers on the subject state that from 90 to 95 per cent of mothers are capable of nursing their infants. My experience is that hardly 75 per cent of them suckle their babies for three or four months and still fewer for the desired nine or 10 months.

The largest single factor in premature weaning is lack of supervision over breast feeding. The doctor may assume, mistakenly, that the mother knows the technique of breast feeding and fail to tell her when he wants to see her infant again. She has to rely upon information gathered from books of every quality, and the varied suggestions of friends and relatives. Finally, in desperation, probably after the baby is weaned or actually sick, she calls the physician.

Ideally, the obstetrician, or, if he does not care to handle the infant himself, the pediatrician, should give the infant a physical examination a few days after birth and then spend some time with the mother, examining her breasts and nipples, getting her attitude toward the new arrival, outlining the nursing routine and general hygienic care, and answering her multitude of questions, especially if this is her first child. He should see the infant every two weeks for the first three months, then monthly until weaned, and less frequently, but still regularly, until he passes the age limit. It is rare today for an infant to subsist alone on breast milk. The physician prescribes orange juice at four to six weeks, cod liver oil at two months, cooked cereal and cooked fruit at four to five months, vegetable soup at six months, a complementary milk formula when the mother isn't giving quite enough breast milk, a supplementary formula when she should be spared, answers pertinent questions concerning the welfare of the child, and acts as a buffer against the multitude of suggestions and advice of well meaning friends. The difficulty is to get the mother to bring her infant to the office with regularity. She may forget, especially if he

is doing well, may not be convinced of the worth of these inspections, or may hesitate from lack of funds or of time.

Improper diet and exhaustion of the mother are other causes for early weaning. Forced feeding and stuffing too often lead to adiposity without increasing the milk supply. I prefer her to eat the same food and in the same amounts to which she was accustomed before she became pregnant, with the addition, if not already included, of fresh fruit, green vegetables, and a pint or more of fluids, preferably milk if it agrees. Non-alcoholic malt drinks usually help if they do not upset digestion, but they add little to the secretory power of the milk glands. As fatigue markedly diminishes the milk supply regular rest of one to two hours should be taken daily, preferably in the early afternoon. The four-hour nursing schedule permits the mother more comfort and freedom, but the majority of infants are not satisfied with intervals longer than three hours until three or four months old, when additional food is added.

The neurotic or highly nervous mother gives poor milk. She worries over the slightest disorders of the baby, and the more she worries the less milk she gives and the fussier the baby becomes. She is a trial to herself, husband, baby and doctor. Much patience and frequent visitations are required to assure the infant an adequate food supply. Here, as with other mothers not giving enough milk, we have them allow the infant to empty one breast and nurse five minutes or more from the other. If there is still an insufficient quantity, we begin a complementary milk formula after each nursing. The usual ending, however, is to have the mother continue to fret until she has far too little milk to justify nursing and the infant is completely bottle fed.

Certain pregnant women make up their minds that they are not going to give suck. This aversion is caused by fear of loss of physical attraction, loss of freedom, or laziness. If mother instinct does not come to

*Presented to the Mecklenburg County (N. C.) Medical Society, December 16th.

our rescue tactful lectures and advice will hardly suffice, and we generally end by artificially feeding the infant.

On the contrary, there is occasionally a mother who is eager to nurse her child, who considers it a joy and privilege to do so, but continues to give a diminishing supply even though on a proper diet, getting sufficient rest and using good nursing technique. We allow her a thorough trial at nursing, letting her offer both breasts at a feeding and then giving a supportive complementary formula. The infant gets less and less milk from the poorly functioning breasts until he gives up nursing as not worth the effort.

Hypersensitive breasts may cause some early weaning. There may be pain at the onset of nursing caused by the contraction of the erectile tissue. This is a fleeting pain and causes little trouble after a few weeks. However, in some breasts the pain does not subside after the infant has well begun to nurse, but increases in intensity, causing the mother to cry out. Here the breast pump too causes excruciating pain. If the pain is intense and persistent through every feeding, we are not justified in encouraging the nursing. Inverted nipples can be made nursable by massaging and stretching two or three times daily, pre- and post-natally.

Cracked and fissured nipples are at times offered as an excuse for weaning. Some nipples are easily chapped and the chewing and sucking of the baby aggravates the condition until nursing is an ordeal. The nipples should be cleaned and dried before and after nursing. The time-honored use of equal parts of bismuth and castor oil may prove useful for a few days, but its continued use will keep the nipples soft. It is better to harden the nipples with glycerine, rose water and alcohol, or witch hazel; or to touch the fissures occasionally with silver nitrate, and to use the metal cage nipple shield, which permits ventilation, rather than the solid shield which allows none. It may be necessary to further protect the nipples by nursing through a shield for a few days, or to keep the baby away from the breasts until the nipples are healed, expressing the milk manually or removing it with a pump.

Too often the baby is weaned because it was thought that the mother's milk did not agree with him. He would vomit forcefully

during or shortly after nursing, or have severe attacks of abdominal pain between nursings. After several milks have been tried without result he is brought to a physician who recognizes the condition as one of pylorospasm or pyloroenterospasm. Atropine sulphate, grain 1/2000-1/500, at times with luminal or an opiate, will relieve either.

The advent of the various canned milks has played a part in early weaning. They are easy to prepare, free from bacteria, and usually taken greedily by the baby. The doctor or mother may begin a supportive milk formula without proper thought or care of breast feeding. It is easier to nurse from a bottle than the breast, and as it is natural to follow the line of least resistance, the infant will soon begin to prefer the bottle. To offset this, we offer the bottle after nursing, and if he refuses to nurse satisfactorily, he is not given the bottle but made to wait until the next feeding time, when he again is offered the breast.

Within recent years more women are at work, both from necessity and preference. A working mother usually wants to nurse for two or three months and then go back to her job. If she must get back to work, it is better to wean the baby completely than to try to have the baby nurse morning and night.

In an acute illness of the mother the baby should be temporarily weaned, the breast kept functioning by expression.

The very premature or congenitally weak infant should not be put to the breast, but fed breast milk with a Breck, or modified Breck feeder until he has gained his expected birth weight. Neither should the new-born with an intracranial hemorrhage be put to the breast until he is over the shock and danger of further hemorrhage.

The infant with a harelip and cleft palate cannot nurse the breast. He is fed on expressed or pumped breast milk as long as the supply is sufficient, which is rarely more than two or three weeks unless an electrical pump is used. We feed the milk satisfactorily with a soft rubber ear syringe.

Other contra-indications to breast feeding are active tuberculosis, cancer, acute exophthalmic goiter and a chronic debilitating condition in which the mother continues to lose weight and strength.

We are not dogmatic about breast feeding.

We encourage it. Supervised breast feeding is superior to all other methods. We appreciate the fact that with the general advancement in child hygiene, better sanitation and closer inspection of the milk supply, we can

rear a sturdy infant by artificial feeding. Each mother and her baby presents an individual problem to be worked out in such a way to assure the happiness and well-being of both.

PRESIDENT'S PAGE

Medical Society of the State of North Carolina

J. G. MURPHY

The Editor came in yesterday and made request that I write something optimistic. He says the men over the state need this. Here he comes to a man in the hospital sentenced to a term of 30 days, not for getting drunk, or even for driving wildly while intoxicated, or for robbing a bank, or anything like that, just in for a general repair to be overhauled as we do our automobiles. When he goes to a man like that to write on optimism he shows himself up as an optimist of the first order. He knows I am and always have been an optimist, but he does not know of my written evidence.

I received a letter one day addressed to "Dr. J. G. Murphy, Optomist, Wilmington, North Carolina." I was tremendously proud of that. I really rejoiced over it more than I did my certificate as an oculist.

Why should not the doctors in North Carolina be optimistic? We live in the best State in the Union. We are not Northerners, Southerners, or Westerners. Ours is the happy medium. No State in the Union inherited from the preceding medical genera-

tion a more exalted standard of its medical men. We were leaders in state legal requirements for practice both in time and standards. We have a small percentage of quacks and charlatans. Our profession today is made up of as well trained and as fine a lot of men as can be numbered in any commonwealth.

We have every reason to be optimistic. We may not accumulate as much of this world's goods as we had dared to dream; but, in this season of unemployment and depression, when actual want and hunger are all about us, we do not even fear that we will not have shelter and daily bread.

As long as we continue to give of our sympathetic selves wherever we see a need we can go joyously forward in a glorious spirit of optimism.

We are hoping the next meeting of the State Medical Society in Durham, April 20th, 21st and 22nd, will be the biggest and best we have ever had. You can not afford not to be there.



SOUTHERN MEDICINE AND SURGERY

OFFICIAL ORGAN OF { Tri-State Medical Association of the Carolinas and Virginia
 { Medical Society of the State of North Carolina
 JAMES M. NORTHINGTON, M.D., *Editor*

Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
CHILDREN'S CLINIC GROUP	Black Mountain, N. C.	} Pediatrics
CHILDREN'S HOSPITAL GROUP	Charlotte, N. C.	
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
EYE, EAR & THROAT HOSPITAL GROUP	Charlotte, N. C.	Eye, Ear, Nose and Throat
THE BARRET LABORATORIES	Charlotte, N. C.	Laboratories
O. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	} Charlotte, N. C.	Urology
ROBERT W. MCKAY, M. D.		
J. D. MACRAE, JR., M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Therapeutics
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology
VARIOUS AUTHORS		Historic Medicine
JAMES ADAMS HAYNE, M.D.	Columbia, S. C.	Public Health

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

Date of Meeting Tri-State Medical Association, February 16th and 17th.

Headquarters—Jefferson Hotel, Richmond.

THE FAMILY DOCTOR AND THE SPECIALISTS

Over a period of many months we have entertained the idea of requesting the Department Editors of this journal, each, to write on the subject of a reasonable and proper division of his particular subdivision of the field of medicine between the family doctor and the specialist in his line. In December a request was made for such writings, these to be published in the next coming issue. The responses varied, but the prevailing note was one of enthusiasm.

There was general agreement that the subject was a difficult one. This was recognized from the inception of the idea. How well these difficulties have been overcome may be seen in the several departments of this issue. If anything be found savoring of—

"SNAKES IN IRELAND,
 There are no snakes in Ireland",

one may hope it is not so meant.

Our own thought on the subject has been rather as to what the family doctor *should* do, *should* be able to do and *should* be encouraged to do. However simple a procedure may be, however easily learned, it is always a mystery to those who do not understand it. Our own recollection of an automobile ride early in this century is vivid on the point of marveling at the skill of the driver and the results produced, by what turned out months later to be the very simple procedure of shifting to the intermediate gear. Before becoming acquainted with a folding machine we thought of it as a very complex apparatus; a casual inspection of its operation showed it to be very simple indeed. Anything is simple to one who understands it; and almost anything is within the understanding of the average man who seeks earnestly to know.

"Our doubts are traitors

And make us lose the good we oft might win
 By fearing to attempt."

The foregoing triplet seems strictly applicable to the cases of many within our knowledge. On the other hand, there are some who rashly attempt to do things beyond their knowledge and training.

However, all of us can not have *the best*; there's not enough of the best of anything to go 'round. We must content ourselves with what is reasonably satisfactory. Patients do not desire a "complete examination" for every ailment, in which attitude they show sound sense. There are not enough physicians to completely examine every patient who consults a doctor, even if they worked 16 hours a day.

The sensible course lies in the middle ground and is plain to those who know which symptoms demand—and warrant the expense of—"a complete study," and which do not.

Such expressions as "given the routine examination" and "put through the mill" do doctors no good. Each patient presents an individual problem, and routineness is objectionable to him. And his familiarity with the tearing, grinding and mangling done to things as they are "put through mills" makes his flesh creep.

The endeavor here is to do something toward drawing a line,—a line so elastic as to yield here and there in either direction—and to promote a feeling of goodwill and mutual dependency between family doctors and specialists. We are proud of the work of our department editors, and confident that the readers will view it and say that it is good.

Expressions from any reader on this, or any other feature of any issue are invited and will always be welcomed.

THE COMING TRI-STATE MEETING

The secretary of the Tri-State happens to be also the editor of the official journal. In neither capacity has he ever qualified as a booster. There was never a time when all geese were swans in his eyes. As the time approaches for the 1931 meeting, there appears no reason why we can not look our new conditions in the face, recognize them as facts, which can not be ignored or put aside, but which must be dealt with in a serious, sensible fashion—just as this Association has always dealt with its problems.

That there is considerable impairment of

the circulation of the circulating medium is a fact that none but those in the grip of delusions will deny. That general improvement can be brought about by indiscriminate buying is a statement of glaring absurdity and folly; but this does not mean that one would be wise to allow his stock-in-trade, which is his support and on which demands are made every day, to run down. His stock-in-trade—in the case of the doctor, his knowledge of what to do for folks who are sick or likely to be sick—must be kept up by careful, discriminating buying. Such expenditure of time, mind and money must be in the best markets. The Tri-State offers such a market, to which you are urged to come.

Most likely our readers will be astonished to learn that more interest is being manifested in the approaching meeting than there was in advance of any recent meeting. This we take to mean a growing responsiveness on the part of our Fellows and our applicants to the presentation by our officers of what the Association has to offer.

Our tentative program embraces:

THE PRESIDENT'S ADDRESS;

A CLINIC and ADDRESS by Dr. John R. Caulk, St. Louis;

" " " " " Dr. Louis Hamman, Baltimore;

CLINICS by: Drs. J. H. Cannon, Charleston; E. P. Lehman and H. S. Hedges, University; and Douglas Vander Hoof and Dewey Davis, F. S. Johns, W. L. Peple, and P. V. Anderson, Richmond;

PAPERS by: Drs. S. W. Davis, Charlotte; Sidney Smith, Raleigh; H. H. Ware, Richmond; I. A. Bigger, Richmond; H. W. McKay, Charlotte; T. M. Davis, Greenville; A. R. Shands, Durham; R. B. McKnight, Charlotte; W. R. and M. A. Griffin, Asheville; Blanch N. Epler, Buxton, Cape Hatteras; W. C. Stirling, Washington; Douglas Jennings, Bennettsville; A. E. Baker, jr., Charleston; J. E. Rawls, Suffolk; J. W. White, Greenville; J. R. Young, Anderson; Thomas Wheelton, Richmond; C. M. Gilmore, Greensboro; D. Lesesne Smith, Spartanburg; M. H. Todd, Norfolk; A. G. Brenizer, Charlotte; L. D. Keyser, Roanoke; J. J. Post, Greensboro; R. F. Gayle and R. B. Easley, Richmond; D. B. Cobb, Goldsboro; Southgate Leigh, Norfolk; W. Atmar Smith, Charleston; Ivan Procter, Raleigh; J. F. Highsmith, Fayetteville; G. P. LaRoque, Richmond; J. G. Johnston, Charlotte.

(Listed in chronological sequence according to receipt of request for place on program.)

(Each paper will be strictly limited to 15 min.—including showing slides—and each discussion to 5 min.)

The names of those to appear are a guarantee of such a program as none can afford to miss. The Medical College of Virginia has generously placed every facility at our disposal. Dr. Beverley R. Tucker and his Committee on Arrangements are seeing after the incidentals in a highly efficient manner.

Following its long established custom the Tri-State program will have no social entertainment of the Association, as such. We will assemble on time and put in our time in an earnest endeavor to improve our abilities to cope successfully with our problems as doctors—how to meet the health needs of our patients and to make a living for ourselves and our families.

Our meeting opens on Monday instead of the usual Tuesday. This change was made in order that a day might be saved, those attending being able to begin the week's work on Wednesday instead of Thursday.

Richmond is a beautiful capital, rich in history. Those who have known her of old will crave to re-visit so favored a city; for those who know her not, there is a rare treat in store. Bring your families—and a new member.

Addendum.—A letter has just come from Dr. Hamman which shows so plainly how completely he understands our aims and how graciously he responds, that it is added:

"You ask the sort of cases I should like to show before the Tri-State meeting at Richmond. I shall leave this to you and the Committee on arrangements. I think it would be a good plan to have cases that show interesting and unusual points in diagnosis, and perhaps cases that may be difficult to diagnose. I presume most of the members of the Society are men in general practice and if cases could be selected which present some of the usual, every-day problems that a general practitioner meets, I think it would be more helpful. I shall be glad to show the cases, discuss the points in diagnoses and treatment, and elaborate on any further points that may be brought out by questions from the members. However, if you have any other plan to suggest, I shall be glad to adjust myself to any arrangements you may think best to make."

A SEQUEL TO DR. EPLER'S SKETCH

To the issue of this journal for October Dr.

Blanch Epler, of Buxton, N. C., contributed a sketch of a remarkable midwife, rightly called in this sketch, *heroic*. Dr. Epler sent some reprints of this sketch to her friends, and a few of the responses she kindly mailed on to the journal.

One of these responses was from the Chief of the Bureau of Child Hygiene of Maryland, another from Dr. Lewellys F. Barker, a third from Dr. Reuben Peterson, Professor of Obstetrics and Gynecology in the University of Michigan.

With the consents of Dr. Peterson and Dr. Epler the letter of the former is here presented:

620 Forest Ave., Ann Arbor, Mich.,
Dec. 2nd, 1930.

Dear Dr. Epler:

I am sending this letter to the Johns Hopkins Clinic because that is your address in the last American Medical Directory. I could not find Buxton or Cape Hatteras in this directory. I presume if you are not in the Clinic, the letter will be forwarded to you.

I have read your very interesting article with much pleasure. The record of this midwife puts many of us to shame. It would be well if many of the things you have pointed out could be made a part of the instruction in our medical schools. For years I have tried to give my students a glimpse at the human side of medicine. For instance, I have given a short talk on medical ethics as a preface to my obstetrical lectures to junior medical students. I have done this perhaps for fifteen years. It has been popular with the students but not so popular with the rest of my colleagues, who think it rather nonsensical I am afraid.

The reason why men were more successful in practice years ago is because they were far more human beings than learned doctors. I wish we could go back to those old relations without diminishing the amount of medicine we teach.

Again I want to thank you for sending me this reprint. I wish there were more such articles written.

Sincerely yours,

Reuben Peterson, M.D.

As Bill MacNider says when he shows you the result of an experiment that happened to turn out well, "now ain't that pretty."

Obviously the Chair of Obstetrics at Ann Arbor is occupied by no ultrascientific prig; but by a warm hearted, level headed medical gentleman of sound understanding and broad sympathies, who realizes keenly that all change is not progress.

A COUNTRY DOCTOR LOOKS AT FEMALE COMPLAINTS

(Hertzner, A. E., in *Nebraska State Medical Jour.*, Jan., 1931)

My job at home is to see everybody, and then I dole them out to my various specialists, and see they don't do anything they should not do. A lot of complaining females are operated on who should not be. In discussing this topic, I shall divide my subject into three general divisions.

In the first place, I will put the girl with dysmenorrhea, or whatever else she may think is wrong with her. Then we will take the middle-aged woman who is suffering from something else, chiefly because she is a middle-aged female. Then the woman approaching the menopause who is apt to fall a prey to the gynecologist and the radiologist.

When I began practice with a horse and road cart, when women complained, they had something. They had eight to twelve children and were part of the domestic machinery. They produced something besides children, too, all the way from soft soap and rag carpets, to mince pies. Everybody, including the children, was engaged in the gentle art of trying to make a living. When they complained they were physically sick, even including the daughters.

The young dysmenorrheic too often has had her "chronic appendix" removed and something done with one of the ovaries. Those things used to be perfectly amenable to treatment by us country doctors when we got hold of her first. The treatment I shall advocate you will find in such recent books as Hartschorne's *Practice of Medicine*. My edition is 85 years old. We now know they are polyglandular disturbances. Dr. Hartschorne does not say anything about that. We have just added it, and while advancing in theory we have forgotten his treatment. It doesn't mean anything more than he knew. These girls have small goiters and when they disappear, likewise does the dysmenorrhea. The treatment he used and I use is potassium iodide. The old doctors all knew it would relieve dysmenorrhea in young girls. This is true yet: it will cure all cases except those complicated by other things, particularly malformation of the pelvic organs. Naturally they are not amenable to treatment. The use of potassium iodide for dysmenorrhea is one of the most valuable contributions ever writ-

ten in medical books. Yet it has been forgotten except by a few old Papas:

One clue has helped me out wonderfully in analyzing the complaining matron. If Friend Husband is along, look out of the corner of your eye and see if he sits with his legs crossed. If he does, he is in pretty good standing at home, and the patient may have organic disease. But if he sits with both feet flat on the floor, he is in bad and the patient's complaints are likely social. That is the position for a quick get-away and Friend Husband unconsciously assumes it. That is no joke. You just watch. It works out.

There is a type of female complainer who has a real problem. She comes alone without the old man. You can see icicles hanging down from her chin. Now the diagnosis there is plain enough. She thinks hubby has been out visiting the blonde. The chances are he hasn't. If he is a real rounder, his wife will swear by him. The jealous woman nearly always has a faithful husband. Probably she hasn't any idea who the blonde is. It must be a blonde. Possibly hubby has given in too easily for her last new dress or a new radio. If you do not kick on what your wife wants, she is bound to be suspicious. She thinks there is something to cover up.

You can tell her there is no evidence of any trouble of any kind, and that she must have imagined it. If you happen to know hubby you can tell her this. Even if you do not know him you can be sure it is all right. A great deal can be done with that type of patient. If you find a little erosion or a prolonged menstruation, as often happens purely from a psychic cause, daub a little something on the cervix that will burn.

The prolonged menstruation at the menopause: Modern woman has learned to take these things seriously. So should the doctor. Often one can not be sure. In such cases the safest way is to open up the top of the uterus and see, particularly in women who have passed the menopause and start to bleed again. By means of operation one can determine the exact character of the pathological changes and remove that and nothing more. It is quite as important to save the ovaries of the woman who has passed the child-bearing period as before. I did not use to know that. When the menopause is approaching,

if an artificial menopause is induced, there is apt to be a tremendous nervous upset developed which may have a great influence on the domestic tranquility and the health of the patient.

Case Reports

HOOKWORM DISEASE SIMULATING MIGRAINE

C. W. ASHBURN, M.D., Statesville, N. C.
Davis Hospital

An unmarried man of 22, a school teacher, came to the Davis Hospital August 5th, 1930, complaining of attacks of sick headache, which had been diagnosed as migraine. For two years he had been treated for migraine without relief. His history as given at the first visit was as follows:

Several years ago, about the time of admission to the University, he began to have attacks of headaches of the most distressing and nagging type associated with nausea, malaise, joint pains and general abdominal discomfort. Following emesis or drastic purgation by saline cathartics, the condition gradually subsided and within a day or so the patient felt fairly well. The attacks came on at intervals of 10 days or two weeks and were continuous over several years until the time of admission to the hospital. The weight had gradually decreased to a noticeable extent and the patient was nervous to a pitiful degree. In the family history there was no record of any cases of migraine or of nervous or mental diseases of any kind.

Examination revealed a young man, anemic, undernourished and thin, 70 inches tall, weight 135, temperature 98.8, pulse 78, blood pressure 120/80, expression anxious. There was a peculiar watery appearance to eyes with pale conjunctivae. Head and chest (including x-ray of sinuses and lungs) negative. Cardiovascular system competent. There was a very slight tenderness over McBurney's area but no muscle spasm. Genito-urinary tract negative. Bones and joints negative. All reflexes slightly increased. Urine was entirely normal. R. B. C. 5,440,000, W. B. C. 7,800 (77 per cent poly., 17 per cent lymph. and 6 per cent eos.) Blood sugar and urine normal. Kahn and Wassermann tests negative. Examination of feces showed ova of *Necator americanus*. Cutaneous skin tests for sensi-

tization to pollens, foods and bacteria showed no evidence of allergic phenomena.

Inasmuch as the only positive finding after rather exhaustive examination was the presence of hookworm eggs in the feces, it was felt that perhaps the headaches, nausea, malaise and vomiting with relief following purgation could be explained by the supposition that the toxins (if such there are) eliminated by the parasites accumulated to such a concentration as to cause a toxic headache, nausea and vomiting. We decided to observe the effect upon the patient of anti-hookworm treatment. Accordingly he was given a prescription calling for three capsules of $\frac{1}{2}$ c.c. each of oil of chenopodium to be taken at hourly intervals followed in two hours by two oz. saturated solution magnesium sulphate. This was to be repeated each week for six weeks and at the end of that time patient was to report to us for observation.

On September 16th the patient again came to our offices as requested. Despite the fact that he had followed the instructions to the letter and had taken the oil of chenopodium six times, the feces still showed the presence of the ova, but much to our satisfaction he had had not a single attack of the unpleasant headaches. He was acquainted with the continued presence of the infestation and instructed to continue treatment and return in one month. On October 4th he was again seen with the same results as on the occasion of the second visit, but with additional result that his weight had increased noticeably.

In attempting to explain the cause of the patient's symptoms and relief following institution of treatment, we have arrived at only one conclusion; namely, that the hookworm does excrete or secrete a toxin and that this toxin accumulated in the system of the patient until it had reached such a concentration as to produce a toxic state with production of headaches, nausea and vomiting that the relief following purgatives came as a result of the expulsion of these toxins from the intestinal tract.

In connection with this case several points of interest were brought to our attention.

1. The presence of hookworm disease in unsuspected cases.

2. The absence of even a relative anemia, the R. B. C. being 5,440,000 and hemoglobin 94 per cent (Dare).

3. The value of routine laboratory procedures. Certainly there was little in the examination or history of the individual to suggest hookworm.

In the Davis Hospital examination of the feces is a routine matter and since May 20th, 1930, 40 cases of hookworm disease have been found. Of course, some of these cases were diagnosed clinically, but the vast majority were found by the routine examination. In the case cited, the eosinophilia would probably have suggested the possibility of intestinal parasites, but in the majority of the cases there was no increase in eosinophiles as I will report in a later paper.

CONCLUSION

1. A patient thought to have migraine was found to be suffering from hookworm disease.
2. There was no anemia.
3. The cause of the disease was found by routine laboratory examination.
4. The patient responded satisfactorily to anti-hookworm treatment.

Clinical Comment

A Column Conducted By

L. G. GAGE, M.D., Charlotte, N. C.

HEMORRHAGE FROM THE GASTRO-INTESTINAL TRACT is not at all uncommon. If blood is passed entirely by bowel it may be overlooked.

There are four different classes of conditions which may give rise to hemorrhage from the alimentary canal. Ulcerative conditions of the wall are probably the most frequent. Obstruction to the portal circulation is probably next most frequent. Diseases of the blood vessels themselves and abnormalities in the blood constituents are two causes that are less frequent.

Any internal hemorrhage automatically prevents any thorough examination at the time, and the history may throw no light on the cause.

Immediate lethal hemorrhage from the gastro-intestinal tract is very rare. Fatal termination usually results from repeated hemorrhage or continued bleeding.

There can be no question that any one bleeding into the alimentary canal should be

absolutely at rest and if necessary this rest should be induced by opiates or sedatives hypodermically.

There is some question as to what should be put into the intestinal tract in the way of medication. If there is a clear history of duodenal ulcer alkali is indicated in the form of magnesium oxide at frequent intervals.

If there is a clear history or knowledge of portal obstruction alkalies can do no good and have been known to do harm by tending to produce ascites. The writer has seen this happen.

When there is no indication of what causes the hemorrhage it is probably best to give nothing by mouth, and in the meantime by examination of the blood in reference to clotting time, cell content, platelet content, etc., try to rule out possible causes of hemorrhage of that nature.

Procedures other than alimentary medication which may be indicated include the use of reagents that are supposed to increase the coagulability of the blood and those that increase the blood volume. In the opinion of the writer calcium chloride intravenously is superior to any other agent of its class for stopping bleeding.

Nothing should be used to increase the volume of the blood, not even water by mouth, except under two conditions. If the patient is apparently bleeding continuously and stays in a state of shock with continued vomiting or passing of blood by rectum, a transfusion should be resorted to and repeated as often as necessary. The same treatment applies in those cases where there are repeated hemorrhages over a period of several days which in themselves are not so severe, but which tend to dilute the blood excessively. The writer has observed remarkable improvement from transfusion in this latter type of case.

The rules in hemorrhage from the gastro-intestinal tract should be:

1. Induce quietude of the patient and of the intestinal tract.
2. Give alkalies only when indicated.
3. No food and very little fluids.
4. Calcium chloride if needed.
5. Transfusion (preferably direct) for continuous or frequently repeated hemorrhage.
6. As soon as possible discover the basic cause.

DEPARTMENTS

HUMAN BEHAVIOR

JAS. K. HALL, M.D., *Editor*

EVERY PHYSICIAN A PSYCHIATRIST

It cannot possibly be avoided. It may be done only passably well; it is much more likely to be done poorly, indeed; but there is no escape from doing it in some sort of fashion, voluntarily or involuntarily. I am saying that every physician is a practicing psychiatrist. If he is an acceptable physician he is fairly good psychiatrist; if he is unacceptable, to patient and to relatives, then he is not a good psychiatrist. Why? Should I ask myself a question so foolish? Now we know, do we not, that there is no such thing as body and no such thing as mind, existing separately and independently each of the other. Nor is there all-mind or all-body. But there is, not *are*, mind and body.

Dogmatism is foolish and futile, too, and I hope that statement is not dogmatic. But whether it be or not, it is a fact that most folks think of mind and body dually, and not *onely*. I am both unable and unwilling to become academic, but I am certain that it is better to think of mind and body as existing in unified form better than as mutually attached, as the Siamese Twins. The human body is useless without its mental associate; it is not possible for us to conceive of the mind as functioning in any respect save through a material body. Perhaps that is why we make our God a Man. We are rather hopelessly, and perhaps helplessly, matty in our thinking.

But every physician must realize that every person who is physically sick is also mentally not well. The term psychiatry refers to this condition of mental unwellness. It is this latter state that members of the medical profession must deal with in every case of illness. With the condition of the body it is not always necessary, nor advisable, to deal.

A physical illness of the slightest sort, in an individual of unstable constitution, causes an enormous emotional upheaval. This disturbed state generally assumes the form of fear, and fear is the most dreadful and terrible and destructive thing in the world. If all fear could be sent as far from us as the

Milky Way, then most of the medical schools would be closed, almost all the hospitals in the world would become drugs on the real estate market, all nurses could become housewives, and there would be little left for doctors to do save to go shooting, play golf, and to pass their nights at the poker table. All calls for the doctor originate in fear, and the majority of medical visits are unnecessary. Folks pay, not so much for medical attention, as for their own fears about themselves.

Man, the chemist tells us, is saturated with oxygen, and surrounded by a belt of it reaching skywards for an undetermined distance. Whatever object comes to man out of his environment must make its approach through that belt of atmosphere. The object may approach man with consideration for him, and with infinite tenderness, as peacefully as Homer's rosy-fingered Dawn; or the oncoming may be raucous and jarring and filled with the terrors of dazzling lightning and rolling thunders. Even so the mind and the feelings of man saturate him and surround him, and all who come to him must come through them. The physician may come to the patient with such a spirit of helpfulness, with such yearning to know and to succor and to alleviate suffering, that his unheard footfalls bring a benediction into the household; yet he may come with noises and bangings and reproaches and roughness, and most of all with ignorances and pre-judgments. In such case he leaves aches and disappointments behind him, and patient and anxious household would have been better without his call, because he came not in spirit.

Ministering to the sick and to the loved ones of the sick is a spiritual ministration. For that reason, I contend, it can not be done for gain, and it can not be done ostentatiously, nor without sincerity, nor without sympathy, for these latter qualities are of the spirit.

Highsounding, unusual, incomprehensible, unnecessary medical terms, are doing the cause of mental medicine much harm. Psychiatrists themselves are largely to blame for this unhappy state of affairs. Many psychiatrists themselves have no clearly defined conception of the meaning of some of

the terms of which they make use. Those things in English literature which make most appeal to me are written in simple language; otherwise I could not understand them. In my own opinion, an enormous increase in the diffusion of the knowledge of mental diseases would come to pass if every psychiatrist in the United States would persistently avoid for the next two years the use of technical language and would make use of such words only as most people use in their everyday speech. I scarcely know who would be benefitted most—the psychiatrists themselves, the mass of physicians, or the public.

The whole truth of the matter is, of course, that sickness of the body is of itself of little consequence. We object to physical sickness merely because it causes incapacity, or fear, or both. Our object in living is to make useful and enjoyable our immaterial qualities—through work, leisure, superiority, joy, hate, snobbishness, ostentation, and in looking down upon the herd from some pedestal to which we think we have climbed. Man has little pride in his soma, but much in his psyche. This latter attribute differentiates him, in his opinion, from all other units of the herd, and in this assumption he is entirely correct. And man expects his physician to pay tribute to his psyche by appreciating its importance, by dealing with it tenderly, for it is fragile exceedingly, and by ministering to it carefully.

The mortal who understands well his well fellowman is a good psychologist, but he may not know what that word means. The physician who ministers in acceptable and tender fashion to sick folks is a good psychiatrist, yet he may be unable to define the term. Who of you ever saw the late Dr. John Whitehead, of Salisbury, enter the room where sickness was? His coming brought healing. He was a spirit himself, and he dealt with his fellowman as a fellow-spirit.

Medical specialists may increase in number. May God prevent such a catastrophe! The physician may limit his practice to the consideration of one particular taste-bud on top of the tongue, but he cannot refuse to practice psychiatry. He may do it well, he may do it poorly, but he must do it in some fashion every time his mind deals with his patient.

DENTISTRY

W. M. ROBESY, D.D.S., *Editor*

THE FAMILY DOCTOR, THE GENERAL SURGEON AND THE DENTAL SURGEON (OR DENTIST)

An accurate limitation of the fields of medicine, surgery and dentistry is impossible due to the limitations of the individual practitioner.

The general practitioner of medicine may do anything, in which he is proficient by education and training, that will benefit his patient, upon an equality with at least the average service rendered by those specializing in that field. He may not practice dentistry because of lack of proficiency, in education and training, in that profession.

Dentistry, like other specialties of medicine, has developed along rather definite lines with the teeth as the center, extending to adjacent tissues through necessity. The broadening of the scope of practice is the natural result of an increase of knowledge through clinical experience and scientific research, with little interference and some assistance from the medical profession and little financial aid from outside the profession itself.

The dentist may not practice medicine except as it relates to the mouth and teeth.

There would seem to be no reason why the general surgeon should not enter the field of oral surgery except his lack of ability to do so. Dentistry is primarily surgery, minor surgery, because a life is seldom at stake. But from the simple lancing of a peridental abscess there may develop a necrosis of the jaw, resulting in a permanent deformity. The injudicious extraction of a loose tooth in the presence of Vincent's infection may produce death. I have known the meddlesome surgical interference, with what is known as dry socket (osteitis of the socket after extraction) to so irritate the condition and spread the infection as to cause almost the total loss of one side of the body of the mandible, leaving a permanent terrible deformity. The care of dry socket had best be left to the dentist.

The removal of an impacted mandibular third molar in the majority of instances requires more skill than the removal of an appendix, or a mastoid operation; not to mention tonsils and adenoids and sinuses. Simple

extractions may be performed by anybody provided they are simple. But there is the catch.

Treatment of fractures of the jaws should not be attempted by either dental surgeon or general surgeon without knowledge as to the proper procedure. The dentist naturally is more familiar with the region, and should be the more proficient provided he has had the experience. Ignorance excuses no one. The field of dental surgery is seldom invaded by any except the uninitiated. Unfavorable results are generally not recognized by the novice and the blame is placed elsewhere.

The field of medicine and surgery is more often invaded by the dental surgeon than the reverse, and the invasion will continue until one branch of dentistry is recognized as a full-fledged specialty of medicine; for dentistry is nearing the cross roads where the commercially inclined will be compelled to raise the banner bearing the slogan *Caveat emptor*, and proceed one way, while the other will continue to assume the responsibility of a profession headed toward a family reunion with medicine and the ideals of Hippocrates.

EYE, EAR AND THROAT

For this issue, FRANK C. SMITH, M.D., Editor

THE FAMILY DOCTOR AND THE SPECIALIST IN DISEASES OF THE EYE, EAR, NOSE AND THROAT

The specialist is a product of increasing centers of population and faster modes of transportation. The family physician is today, and will and should remain, the backbone of medicine in rural and urban communities such as ours. In days past he carried his complete armamentarium in his saddle-bags. At that time there was only the cross-roads store which carried everything from kerosene to molasses, from a rat trap to a wagon, from the baby's socks to the horse's shoes and from a dose of calomel to a cancer cure. With increasing population special stores carrying only certain lines, as hardware, drugs, etc., sprang up. These stores carried a better line of their specialties than had the general store, due to the fact that the owner had been unable to keep up with his whole store and pay particular attention to each

individual line; then, too, the cost of overstocking and carrying things seldom called for was prohibitive. Similarly the medical profession has changed and the general practitioner has found that he has not the time to keep up with the special branches of medicine, nor does he care to invest in the extra equipment required and now he, like the store keeper, finds himself in a better position for service and financially than he could by attempting everything.

The division of work depends upon many factors. There is still the general store which serves its purpose in certain communities, and there are still a few doctors in mountain sections who lead a heroic life of service not far removed from the saddle-bags. They may have a vision of the ideal treatment, but if idealism is going to kill the patient it is better to operate with crude instruments in a snow-bound cabin. A physician 50 miles from a specialist may have a patient he would like to refer, but the patient may demand his services because he does not care to go or has not the means of transportation. Economically it is not sound, and medically it is not necessary, to send every case of foreign body of the eye or every baby at the first sign of conjunctivitis hurrying to a specialist. On the other hand the family physician should know that an ordinary abrasion of the cornea will heal under a bandage in 24 hours and that pain after this time, a flush around the cornea, haziness of the cornea or contraction of the pupil are signs of impending danger, and that an infant's lid which has quickly become swollen and red with profuse purulent secretion often blood-tinged indicates gonorrheal ophthalmia and demands immediate consultation—and so, ad infinitum.

For a question so broad the answer must be general. A reasonable division of work between the general practitioner and the eye, ear, nose and throat specialist comes when the general physician and the specialist cooperate sympathetically in the interest of the patient; the specialist informing himself as to the part played by the general condition, and the general practitioner, by experience and education, learning the signs and symptoms of the special diseases and their complications.

LABORATORIES

H. P. BARRET, M.D., *Editor*

THE FAMILY DOCTOR AND THE CLINICAL PATHOLOGIST

In the laboratory field, just as in the surgical field, it is difficult to definitely outline the class of work one man should do. In surgery, it goes without saying that a man who is capable of removing an appendix should be capable of removing a tonsil. So in the laboratory field, a man capable of using the microscope for one class of examinations certainly should be able to use it for many other examinations. The work should probably be divided so as to limit a man's work to that which, by long experience, and possibly by preference, he is most capable of doing.

It is almost impossible to say what a man can do (from a practical standpoint) in the laboratory line when most of his day is taken up with other lines of work. To say the least, a general practitioner should be able to do simple urinalysis tests, white and red blood counts, and some simple form of hemoglobin estimation; also, to make, stain and examine smears for the general run of bacteria. If the practitioner does not do these tests himself, he should be thoroughly familiar with the meaning of these and the other simpler forms of laboratory work.

As all laboratory tests require a certain amount of technical precision, it is the writer's opinion that even simple laboratory tests are worthless if not done accurately.

It has been often said that the laboratory should be used as an aid in diagnosis, not a means of diagnosis. This is true and represents the real value of clinical laboratory work. The clinical pathologist with his clinical laboratory should be used as a consultant in the diagnosis of disease.

At one of the yearly inspections of the College of Surgeons the writer was asked if the members of the hospital staff used the pathologist as a consultant in their difficult, or other, cases. The writer at first answered no, but then recalled the fact that not a day passes without one or more doctors asking advice as to what the laboratory could offer in the way of help in diagnosis in some particular case—often asking for a diagnosis. The physicians were not using the pathologist as a formal consultant but the end results

were the same. It goes without saying that, in order for the pathologist to be of service to the man in practice he must equip himself for this purpose. This is not a reference to his laboratory equipment. He must be equipped mentally for his position. His field is so broad that he can not limit himself to study of laboratory work and problems; he must be well read in all branches of medicine. Obviously, he can not talk intelligently on the laboratory side of any given disease condition if he is not well grounded in the medical and surgical side of the condition. This, of course, means much study and reading in all branches of medicine. So much for the clinical pathologist himself and his general relation to the general practitioner. What of the general practitioner and his relation to the laboratory man?

It is a bit difficult to state fairly just what he should or can do in the laboratory line. It is hard to draw a line which definitely separates the practitioner from the pathologist strictly speaking or, maybe better, ideally speaking. The practitioner should be a good pathologist in order to be a good doctor; and the pathologist should be a good doctor in order to be a good pathologist.

For present purposes a doctor may be said to be one of four kinds:

1. The one who does not use the laboratory.
2. The one who wants to but doesn't know how.
3. The one who uses it unintelligently (expects too much; uses it indiscriminately).
4. The one who knows how to use it and does.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D., *Editor*

THE FAMILY DOCTOR AND THE ORTHOPEDIC SURGEON

To be specific would tend to raise questions and arguments which could never be entirely settled among individuals, and so only generalizations can be indulged in. To say that an elbow fracture (a very treacherous injury) should not be treated by the family doctor would reflect on the skill and experience of many physicians who have treated this injury successfully throughout a long

practice. Some family doctors will not treat an elbow fracture at all.

Orthopedic surgery has been something of a specialty for centuries, was emphasized by Hugh Owen Thomas of Liverpool in the 70's, 80's and 90's of the last century, and was given particular impetus by the work and teachings of Sir Robert Jones in the first two decades of this century. The principles in this specialty were being taught and fostered in this country by such men as Goldthwaite, Brackett, Ridlon, Hibbs, Baer, Hoke and others when the late war drafted them into the service of the wounded soldier. Since the war a much larger group has entered this field and find a demand for these principles in the work for crippled children and industrially disabled adults.

Royal Whitman says, "Orthopedic surgery is concerned with bodily mechanics, with the prevention and correction of deformity and with the conservation of the locomotive function. It has become a specialty because of the time-absorbing character of the work and because of the technical difficulties that it involves, and its scope is determined by the aptitude and opportunity of those who practice it."

There is no way to state a reasonable division of the field of orthopedic surgery between the family doctor and the specialist. This should be a matter for the general practitioner himself to decide in any given case. It is purely a question of honesty and conscience. If something occurs which the family physician feels that his experience does not justify his handling, as a matter of course, he will have consultation. If he does not offer consultation, he is not fair with the patient. If the doctor in practice is prepared by training and experience to meet a given issue, all the requirements are at once served. Nothing is so detrimental to the best interests of medicine and surgery as the withholding of consultation when it is indicated.

Specialism has advanced all the branches of medicine and surgery. It is preferably a co-worker in the general practice of medicine. In the light of the present levels attained in this art it is humanly impossible for the average of us to store up enough medical knowledge to properly guide the sick and injured without frequent recourse to consultation and reference in special fields.

It is a pleasure to glorify the general practitioner and his work, but the best interests of more patients are served by a free interchange of viewpoints. It behooves the men in special fields to put their services and their fees according to their own worth (and they generally do) at the disposition of people, and serve every stratum of society in keeping with the circumstances. All available influences should be exercised to bring about a finer working understanding between specialists and general practitioners. No set rule can be established relative to division of work. Let each worker be trained, have a conscience, and let that conscience be the guide.

UROLOGY

HAMILTON W. MCKAY, M.D., *Editor*

THE FAMILY DOCTOR AND THE UROLOGIST

I first want to commend the Editor for this timely suggestion and happy thought in asking for an expression from all Department Editors, representing their respective specialties. I will await the next issue of *Southern Medicine and Surgery* with an unusual degree of interest. I believe such articles from representatives of the various branches of medicine will comprise a unique and instructive issue of our journal.

Prior to receiving the suggestion for an expression on this subject, I had the following experience with a general practitioner who had been practicing medicine in a good town and who, from all appearances, was satisfied and happy.

"I am changing my location," he said, "the specialists and group medicine" (meaning the clinic) "have made it impossible for me to make a living in the town in which I am now practicing." Apparently Dr. A's attitude was not that of critic or judge, but rather that of jury. He had accumulated evidence over a period of years and had decided that the verdict was against him and that he must move on. The doctor's honesty of statement immediately enlisted my interest and sympathy—not that he was asking for or needed either; but I am sincere in the opinion that his deductive reasoning was exceedingly poor.

This sober statement of a general practitioner to a specialist furnishes a splendid setting for such a discussion.

The following conditions should be diagnosed, managed and treated by the family doctor, except where the contrary is indicated in the text:

DISEASES OF THE SEXUAL ORGANS IN THE MALE

(A) *Penis*

1. Diagnose and treat infected scabies and lichen planus, remembering that neither of these is a rare disease and that either is likely to occur on the shaft or on the glans penis.

2. Learn to recognize lymphangitis of the penis, as this may be a complication of any severe infection, for example, gonorrhea. The family doctor should be familiar with this condition and prepared to treat it.

3. Diagnose and treat phimosis and paraphimosis.

4. Diagnose and treat balanitis and balanoposthitis.

5. Differentiate ulcerative balanitis from chancroids and acute gonorrhea—all three diseases can be treated by the family doctor.

6. It is extremely important that the general practitioner take seriously every open genital sore and that he be prepared to do, or have done, repeated dark-field examinations on all of these genital lesions before any treatment is advised.

7. The general practitioner should be familiar with the indications for circumcision—and should then perform an operation with the idea of obtaining good cosmetic as well as functional result.

THE URETHRA

1. He should have instruments to measure the calibre of the external urinary meatus and be able to perform meatotomy when indicated.

2. It is most important that every family doctor should know the minute anatomy of the normal urethra.

3. He should have a very clear conception of the various causes of a urethral discharge.

4. If the general practitioner knows the great difficulties in treating gonorrhea and realizes its far-reaching and devastating effects, he is justified in attempting its treatment. If, on the other hand, he is still a believer in prescribing the hand syringe with some favorite urethral injection, he had better frankly advise the prospective patient that he is not capable of treating this disease. If

the family doctor would only take gonorrhea and genital sores seriously, how much better off their patients would be and how much better doctors they would be!

I am pessimistic when it comes to the treatment of gonorrhea, even under the most favorable conditions and I am definitely opposed to the same plan of treatment for all cases, especially when the local treatment is to be administered by the patient himself, who constantly traumatizes an already insulted urethra. In addition, many times the patient has a false sense of security, gained from the doctor, that he will be well and sound within a very brief period of time.

5. It is most important for the family doctor to realize that there are many causes of a urethral discharge, many of which are misdiagnosed and treated for gonorrhea.

The diagnosis of sub-acute and chronic gonorrhea, in my opinion, can not be accurately made by the stained smear. A culture, in many instances repeated cultures, are necessary to establish a diagnosis.

THE POSTERIOR URETHRA, PROSTATE AND SEMINAL VESICLES

1. The family doctor should realize that the posterior urethra is a mirror into which we look for a reflection of what is taking place in the seminal vesicles and prostate. Thus, many times it is that portion of the urethra which harbors the infection and is quite difficult to treat.

2. Every doctor should be able to make a thorough and intelligent rectal examination. How many can and do?

3. What percentage of the general practitioners know how the prostate feels to the examining finger or where to palpate for the seminal vesicles? Both of these structures can and should be examined and treated by the family doctor. If I were asked to name the simplest, most neglected and most important part of a complete physical examination, I would answer most emphatically, an examination of the rectum and its adjacent structures.

SCROTUM AND ITS CONTENTS

1. Hyperesthesia of the scrotum, with atrophy of the testicle sometimes follows mumps and is very often an underlying cause of sexual neurasthenia.

2. A sense of uneasiness in the scrotum or

dull dragging pain with a crawling sensation in the perineum should suggest trouble in the posterior urethra and verumontanum. Such disorders may be treated by the general practitioner if he is skilled in instrumentation and the use of the endoscope.

3. Marginal eczema, common in athletes, should be recognized as a common disease, affecting the inner surface of the thighs and the scrotum and should be treated by the general practitioner.

4. Giant edema of the scrotum is not uncommon, nor is it serious, but it is quite disconcerting to the patient. The underlying cause should be discovered, if possible, and the condition treated by the practicing physician.

5. Pyogenic infections usually involve the epididymis and not the testicle; therefore, the very common diagnosis of orchitis, usually made by the family doctor, is incorrect. The diagnosis, based on pathology, is usually an abscess of some portion of the epididymis, with an accompanying hydrocele.

6. Every general practitioner should know how to apply a Bellevue adhesive bandage to the scrotum and should be able to manage a case of epididymitis according to the modern plan of treatment.

7. Syphilis, tuberculosis, new growth and mumps are diseases that frequently attack the testicle and all may be serious if not diagnosed and properly managed by the family doctor.

8. True hydrocele of the coverings of the testicle and hydrocele of the cord with an occasional spermatocele are of sufficient importance to be diagnosed and the treatment directed by the family doctor.

9. It would seem almost presumptuous for me to mention the importance of transillumination in scrotal diagnosis, yet I believe this simple procedure is often neglected.

10. Funiculitis and torsion of the spermatic cord must be differentiated from strangulated hernia and treated promptly. They are usually seen first by the general practitioner and should be properly diagnosed and the treatment advised by him.

SEXUAL NEUTESTHENIA

A word on behalf of the patient who consults his family physician with a condition he

is prone to call a loss or partial loss of manhood. The patient's impotence or partial impotence often has a physical basis, but it more often is due to an upset of the autonomic nervous system and the higher centers in the brain. Surely such a patient deserves better than to have his confidant and friend, the family doctor, laugh it off and dismiss him with an aphrodisiac pill. The next time the doctor hears from such a patient, he finds he is being treated by some quack and the doctor is surprised and disgusted. The answer is perfectly clear: aphrodisiac pills can not and will not take the place of a thorough physical examination, followed by a diagnosis and treatment which tends to restore mental poise and, above all, self-confidence.

For family doctors who really want to work, this group offers a large field for scientific work of the highest order.

URINARY TRACT IN GENERAL

I have only space to mention a few fundamentals in the diagnosis and treatment of the common disorders of the urinary tract, with which the general practitioner is confronted daily.

1. An inspection of the external genitalia in both male and female, with urinary symptoms, is most helpful. By this simple procedure, many important observations are made by inspecting the urethra in the female and the external urinary meatus in the male—both comprise tubes through which the urine is expelled. I, therefore, suggest that when possible the general practitioner collect the first specimen of urine to be examined.

2. In procuring a specimen of urine from girls or women, the vaginal outlet should be sponged thoroughly and the specimen should be obtained by a catheter. In the male, the foreskin should be retracted and the external urinary meatus thoroughly cleansed. The male patient should be instructed to void his urine in three glasses as, in some instances, a great deal of information can be gained in this way.

PYURIA

1. Pus in the urine may be of great significance or it may mean little, depending upon the way the specimen is obtained and the proper correlation of the laboratory findings with the history and the clinical symptoms of

the case. I can not go into detail on this point but simply state that the family doctor, by careful study, should be able to determine from which part of the urinary tract the pus is coming and, in many instances, he is justified in treating the case.

PYURIA IN CHILDREN

These cases should be treated intelligently by the family doctor for a period of four to six weeks; if at the end of this time the child still has symptoms, a thorough urological study should be ordered.

HEMATURIA

Blood in the urine is always disconcerting and frequently alarming to the patient: it is unfortunate that its presence does not give the doctor more concern. Painless hematuria should always be a symptom that suggests an immediate and thorough urological study. If the blood comes from an acute infection, it is certainly within the province of the general practitioner to administer treatment.

DON'TS

So far, I have dwelt with the positive and not the negative phase of this very interesting subject. There are a few *don'ts* which are in order in any such discussion.

1. Don't attempt to treat gonorrhea unless you are thoroughly acquainted with the difficulties of obtaining a cure.

2. Don't treat a venereal sore until you have made one or more dark field examinations.

3. Don't diagnose simple epididymitis with inflamed hydrocele as orchitis.

4. Don't neglect the sexual neurotic; to do so is to help the charlatan and quack, and cheat your patient and yourself.

5. Don't treat a child with pus in the urine indefinitely without having a complete urological study made.

6. Don't neglect to do a rectal examination when a young man with acute gonorrhea comes in complaining of dysuria. (*Prostatic abscess is usually diagnosed as 'flu'.*)

In this discussion, I sincerely hope I have not been too elementary in the opinions expressed. Most of these ideas are based on experiences gleaned from a daily practice over a number of years as both general practitioner and specialist.

CONCLUSION

For four or five years I practiced general medicine and I am quite sure that the friends

I made during that period were made by my trying to find out about their problems rather than by what I accomplished by treatment or operation. I, therefore, make no apologies for constantly referring to diagnosis and pathology. If the general practitioner knows how to diagnose and has a clear conception of the changes taking place in the diseased tissues of the body which he is attempting to treat, there will be no reason for discussion about the division of work; nor will there be a paucity of work for either the general practitioner or specialist.

I, for one, believe that the family doctor has always been both the foundation and superstructure of medicine, and he always will be as long as he is able to *lead* the layman and not follow. If he is able to diagnose his cases properly and knows the pathology, almost everything else will be added unto him, including a large practice and the appropriate treatment for each and every ill.

RADIOLOGY

J. DONALD MACRAE, JR., *Editor*

THE FAMILY DOCTOR AND THE RADIOLOGIST

All physicians are given the same basic training, with slight variations. However, we find it convenient, if not necessary, to leave the details of certain divisions of medicine to those who give their major attention to that special line. The man who does general practice naturally has to have a considerable knowledge of each of the specialties. Radiology is perhaps the line in which he does the least amount of work. The man who does his own radiology is in the same class with the radiologist, in that he must be well trained in radiology or that part of the specialty he is following. The radiologist must have the special technical training to do his work and a broad knowledge of other fields of medicine in which he is called on daily to help solve problems.

The most frequent call on the x-ray man is to aid in the diagnosis of fractures and bone conditions. He will be greatly aided in his work if a written or verbal request is made for the examination of a specific part of the patient's body, or if the part to be examined is left to the radiologist this should be definitely understood. The condition suspected should be stated. The injured part should generally be put in temporary splin-

tage. Cardboard or light wooden splints generally serve and do not cast an obscuring shadow on the film. Aluminum splints are satisfactory in most cases, as they do not cast a heavy shadow, but even a light shadow can confuse the diagnosis at times. Splints opaque to the x-ray should never be used when x-ray pictures are to be taken. When a plaster cast is on the part the site of fracture can be determined, but it is difficult to show callus unless it is quite heavy.

When osteomyelitis or bone tumor is suspected the roentgenologist should be given sufficient time to study the film before making a diagnosis. It should be remembered that early osteomyelitis does not give bone changes ordinarily demonstrable on the x-ray film. This condition should be diagnosed clinically and a positive x-ray report only should be given weight unless the condition is old enough for one to expect definite bone changes.

When an x-ray examination is to be made of any of the viscera the preparation of the patient is of great importance. Gastrointestinal examinations require 24 hours or more and several visits to the radiologist. Most men require that the patient report in the morning after a fifteen-hour fast. The patient should not have had a cathartic within 48 hours before first reporting to the radiologist. Any variation from this procedure gives rise to an incomplete and generally an unsatisfactory examination. The radiologist should not be asked to make a fragmentary examination except to check a condition previously definitely located.

The colon is examined during the passage of the opaque meal through the intestines after its ingestion or during the injection of an opaque enema and after its evacuation. For this examination the intestines should be free from all material including gas. This is best accomplished by purging with compound licorice powder, half ounce, the night before the examination and two enemas to thoroughly cleanse the colon before reporting to the x-ray room. No food should be taken at breakfast time, but a small cup of warm liquid may be permitted if the patient rises early.

Kidney and bladder pictures are not satisfactory unless the intestines have been completely emptied as for a colon injection. When emergency examinations are required

it must be remembered that the roentgenologist is working under a handicap and due allowance made.

Pictures of the lumbar spine preparation need not be so thorough, but when the intestines are empty much better pictures will be obtained.

Gall-bladder visualization requires a definite procedure as to diet and ingestion or injection of the dye. This begins generally the night before the examination, so the examination should be decided upon the afternoon before it is actually begun.

Chest examinations can be made with the least preparation. Stereoscopic films made with the patient standing enable the best interpretation to be made. Films made on sick patients at the bedside can be excellent but the limitation must be realized. The limitations are increased when the patient cannot coöperate by remaining still and holding his breath. The injection of iodized or brominized oil into the bronchial tree is useful in demonstrating bronchiectasis, old abscess or obstruction of a bronchus. The roentgenologist should be consulted as to the indication or contraindication for this procedure.

Films of the skull require immobility and coöperation of the patient. Some skull pictures must be made of irrational patients. This cannot be avoided in many cases, but here only the positive report of a fracture should be given weight. Even excellent films occasionally fail to show a fracture, so the clinical picture is primary when skull fractures are suspected. I do not mean to imply that the x-ray picture is not of great value, but one must appreciate its limitations even when expertly interpreted.

As to the interpretation of films and fluoroscopic examination the machinery must be adequate: the films should be of the greatest technical excellence, but of prime importance is the skill and experience of the roentgenologist or the one who makes the interpretation. He should be used as a consultant and *it is of the greatest advantage to the referring physician, the patient and the roentgenologist for the referring physician and the roentgenologist to view the films and discuss the case together.*

When a hollow viscus is filled by an opaque medium to visualize its lumen it is well to recognize that only certain conditions can be

demonstrated on the film and by fluoroscopy. A filling defect may be caused by a foreign body or a tumor within the lumen or the wall of the viscus. A tumor outside the viscus making sufficient pressure will also cause a filling defect. Strictures and congenital deformities cause a change from the normal appearance as seen in the x-ray examinations. Diverticula are filled by the opaque material and their size and position can thus be demonstrated. Certain disturbances in the movement or physiology of these viscera may be shown by x-ray examination but frequently a disturbance in function gives no x-ray evidence. Accessory nasal sinuses and draining sinuses elsewhere in the body can be mapped by injection with opaque oils. The value of the examination in any particular case is best determined after consultation with the radiologist.

X-ray and radium therapy is a field in which rapid advances are being made. Some may feel pessimistic about this field or believe that it has reached its height, but not those who view the whole subject. It would be out of place in this discussion to name all the conditions in which radiotherapy has been tried, even with slightly encouraging results. However, there are certain general statements that it may be useful to make.

In many skin diseases x-ray or radium give consistently good results. The dermatologist finds radiation from ultra-violet to x-ray and radium a valuable adjunct to his armamentarium. Epitheliomata require heavy doses while acne vulgaris, psoriasis and eczema respond favorably or are cured by repeated fractional doses. Here again consultation is of great value. Whether x-ray or radium is to be used depends on several factors and the radiologist should decide the question.

Malignant tumors respond to radiation in many cases but the type and advancement of the growth is the chief influencing factor. Best results come from the use of moderate or deep therapy (high voltage and heavy filtration). Uterine fibroids of certain types respond almost uniformly to radium or x-ray therapy in moderate doses. Uterine malignancy responds to radium, or a combination of radium and x-rays in maximum doses. In early and moderately advanced cases radiation gives much the best hope of any form of treatment.

While comparison of results of different

forms of treatment of malignancy is chiefly based on five-year cures, one should not forget the intermediate results. A patient whose case is considered inoperable or hopeless when first seen by the radiologist can often be given relief from pain, particularly that from bone metastasis. Life and usefulness can, in many cases, be increased by radiotherapy.

Surgery is of prime importance in breast cancer, but here also radiotherapy has a definite place. In bone tumors, aside from producing a definite cure in certain cases, radiotherapy offers a valuable therapeutic test when diagnosis is doubtful and surgery is not desirable. X-ray treatment has been found to be of considerable service in the treatment of some acute infections, such as erysipelas, carbuncles and gonorrheal arthritis.

There are several ways in which I believe the usefulness of the radiologist to his fellow practitioners can be considerably increased. One is the correct preparation of the patient; another is a knowledge of the limitations of the radiological examinations; and more frequent consultations with the radiologist before he sees the patient and after the examination.

As to therapy, again more frequent consultations will help the patient and the referring physician and enable the radiologist to render a greater service to both.

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D., *Editor*

THE FAMILY DOCTOR AND THE DERMATOLOGIST

It is not possible to divide skin diseases into groups which should, or should not, be treated by the general practitioner of medicine.

A number of our medical schools are now giving excellent courses in dermatology and physicians graduating from one of these schools should have a practical knowledge of the diagnosis and treatment of the common skin diseases. Such knowledge, of course, should be and is used by the general practitioner in the care of his patients.

No specialist should assume that he is the court of last resort and that all cases in his specialty should be referred to him. I am of the opinion that men who specialize in any branch of medicine do so with the idea of equipping themselves in such a manner as to

render a valuable service to their patients, and to the referring physician in helping him with those cases which are difficult for him to care for.

In my opinion there are three groups of cases that should be referred by the general practitioner to the specialist.

1. Those cases which the general practitioner cannot diagnose.

2. Those cases which he diagnoses correctly but do not respond to his treatment.

3. Those cases which are diagnosed but can best be treated with special equipment which the family physician does not possess.

Most of the mistakes that are made in the diagnosis of skin diseases are made because the individual lesions are not carefully observed, and all of the possible differential diagnoses are not considered.

There are two conditions which the practitioner should always consider in the diagnosis of a skin condition; first, syphilis; second, cancer. Many chancres of the finger or lip are considered innocent sores until the patient has developed secondaries. Only too often a chancre of the finger is subjected to several surgical procedures before its true nature is determined. Cancers of the lip, eyelid and mouth are often unsuspected until an extensive growth has taken place. If these two conditions are thought of, even in cases where such a possibility seems remote, many embarrassing situations will be avoided, and even the patient's life may be saved.

INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*

THE FAMILY DOCTOR AND THE INTERNIST

A reasonable division of the field of internal medicine between the general practitioner and the specialist is a subject of considerable interest, and there are practitioners throughout the country who are erring on both sides of the question. Some men, in their eagerness to handle everything, are treating in a mediocre manner many conditions which they should not touch, while on the other hand there are not a few who, in an excess of zeal, are sending far more cases to the men doing definitely special work than is really necessary, thereby depriving themselves of experience which should stand them in good stead and also causing the patient in many instances unnecessary expense.

It would seem that the man doing general work should definitely not treat eye conditions, ear conditions and conditions of the nose and throat requiring operative intervention, nor should he attempt genito-urinary work if that work demands cystoscopy, ureteral catheterization, the taking of pyelograms, etc. The management of syphilis on the part of the general practitioner would depend a great deal upon where and how he is located. If in the rural districts or in a small town, he probably will and should give arsphenamine injections himself; if in a large city, it is probably better to turn over the majority of these cases to an individual with greater experience in their treatment.

Chest and heart conditions should, in the main, be handled by the general practitioner. To be sure, given a patient with a diseased heart, if the opportunity is at hand, it is well to turn the patient over to a cardiologist for a more detailed interpretation of the nature of the disturbance as revealed by the electrocardiogram; but any man holding a State license to practice medicine should be competent to treat adequately the failing heart. The same is true of the more common diseases of the lungs and pleura. The practitioner should do paracenteses of the pleural cavity himself, but I have been surprised to see how frequently a surgeon has been requested to perform this simple and essentially medical operation. The practitioner, however, should not attempt the induction of an artificial pneumothorax or the continuance of one already induced unless he has had some special training in the procedure.

The pneumonias, of whatever nature, are essentially diseases for the general practitioner to handle. When we come to the many diseases of the alimentary tract, it is a question whether the general practitioner should handle them himself or refer them to the gastroenterologist. Again here I feel that the same facts hold good that obtain in the case of the heart. The gastroenterologist, with his specialized knowledge, will be able to give a more complete and detailed diagnosis of the condition and to outline certain principles of treatment; but the management of the case thereafter should, in the main, rest with the general practitioner.

Every man doing internal medicine should be able to satisfactorily direct and control the

average case of diabetes, although he may not be able to make all the ultra-scientific examinations which are done in the clinics and by those specializing in metabolic diseases. The writer has no wish to decry any of these procedures and realizes fully their value in giving the physician a more complete picture of the pathological physiology of the patient; but any careful physician, with a coöperative patient, should be able to correctly map out a maintenance diet for that patient which will keep him sugar-free and his blood-sugar within normal limits; or else, if this is impossible, secure the desired effect by proper dosage of insulin.

The same principle holds true with regard to the various types of nephritis.

It would seem to the writer that dermatology in practically all of its branches should be left to the dermatologist; that organic nervous diseases should be managed by the neurologist, and that cases that have gone beyond mere "nerves" and that are verging on, or really suffering from, a psychosis belong strictly within the domain of the psychiatrist.

No general practitioner can make a bigger mistake than to undertake the cure of a drug addict. He will fail and frequently, in the failing, he will get himself into some unlooked-for trouble.

It may seem, from the foregoing summary, that the specialist is doomed to an early death from starvation, but such is not the idea at all. The specialist will often be called in and looked to for guidance and suggestions, and it is right that he should be; but it is not right that patients be sent to different men simply because the general practitioner has not at his finger tips all the details of the procedure to be followed in the handling of the case. This attitude tends to make the practitioner lazy and forgetful of the fact that eternal study is the price of efficiency.

SURGERY

GEO. H. BUNCH, M.D., *Editor*,

THE FAMILY DOCTOR AND THE SURGEON

The relationship between the physician and the surgeon should be one of mutual confidence and understanding. Proper coöperation between them is essential. Each should strive for the good of the patient, with the

help and the good will of the other. Circumstances have placed them together in the fight against disease. Good sportsmanship demands that as team mates each treat his fellow with due courtesy and consideration. Any selfish or unbecoming act of one will be felt and resented by the other. When sympathetic coöperation between consultants is lost the patient loses confidence in both. His mind is filled with doubt and misgiving. His mental state is of such great value that it should be bolstered and protected at all times from every depressing influence.

Constructive discussion and suggestion should be welcome between physician and surgeon if given in private and in a friendly way. If the physician has purged the patient in whom acute appendicitis is suspected the danger of it should be tactfully explained to him by the surgeon so that the next patient's life may not be jeopardized in this way. Undue delay in resorting to surgery may allow the disease to become so advanced that the opportunity for operative relief has passed. But undue haste in operating without proper study and diagnosis of the case is almost as culpable. If the patient is acutely ill and there is not time for a complete working-out of the case, exploratory operation under spinal anesthesia is a safe and sane procedure. If the surgeon does not operate upon strangulated hernias and other emergencies promptly the physician should protest.

After operation the patient should be kept in the hospital until the wound has safely healed. Patients who have fever or are otherwise obviously ill should not be sent home. Patients who have to be catheterized or repeatedly dressed by the physician had better remain in the hospital where this can be done by the nurse.

After operation the responsibility is mostly that of the surgeon and he should have direction of the case until danger of surgical complication has passed. The physician should at all times be welcome to visit the patient and to make suggestions as to his care. If the physician does not live in the same city the surgeon should write him the operative findings and should keep him informed about the patient's condition, particularly if there has been some grave or unexpected change in it. On dismissal from the hospital the patient should return to the care of the physician, but

the surgeon, if he desires, may give suggestions as to treatment.

Medicine in no department is an exact science, and it behooves each of us to treat the mistakes of another charitably; there will come a time when we will need charity ourselves. The spirit of "big I and little you," either in professional glory, or financial reward should not come between physician and surgeon. If the patient is properly treated there is glory enough for both. Neither should take all the patient's money when he knows that the other has not been paid or cannot be paid.

In conclusion, we think the general practitioner, for unselfish devotion to duty, is the noblest work of God. There is no other being who has such sympathetic understanding of human nature, of the good and the bad that is in all of us. Overworked and underpaid day and night he does his best for the relief of human suffering. We think it a shame that he has to die to get to heaven.

THERAPEUTICS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

THE FAMILY DOCTOR AND THERAPY

This editorial is written after more or less correspondence with the Editor-in-Chief of this journal, in which the present writer tried to impress the idea that his mind was a vacuum on the topic. However, having recently referred a patient with mastoid pains to an aural colleague, who made a diagnosis of vacuum pains and relieved the patient, we may perhaps obtain relief by writing this article and so transferring our vacuum pains to our longsuffering readers.

In the first place, there ain't no such animal as a therapist within our ken, if by therapist we mean someone addicted to treating disease without diagnosing it. Our field of practice is not at all exclusively therapeutics, but internal medicine, *i.e.*, the diagnosis and treatment of internal diseases. Therefore, at best, all we can do is to discuss the question of the respective fields of the internist and the general practitioner. Here we are handicapped by two factors. The first one is that there is already a very able department of internal medicine in this journal presided over by Dr. Ringer, who will present the subject far better than we can. The

second thing is that, on reflection, we find surprisingly little work in the field of the internist that does not come also in the province of the general practitioner.

The internist may very profitably take up certain special diagnostic procedures which the general practitioner will rarely have time to gain skill in, such as, *e.g.*, electrocardiography, but this is not a therapeutic procedure.

What, if any, therapeutic procedures are there peculiar to the internist, which the general practitioner should not attempt? Considering only the *good* interest and the *good* general practitioner, we really do not know of any. The internist may be more likely to do transfusions than the general man, but he may prefer to let the surgeon do this work on the one hand, or, on the other, there is no serious reason why a general practitioner really competent to do a transfusion should not do it. One would hardly expect the general practitioner to use some of the various present day methods of artificially producing fever to cause a remission in paresis, such as malaria inoculation; but this is in the realm of the neuropsychiatrist, rather than the internist proper, and could be better discussed in the department of neurology. Moreover, with the gradual perfection of electrical apparatus for producing fever, the matter may be simplified to the extent where the general man can even add this procedure to his armamentarium. A very few cases requiring very special dietotherapy may be better treated by the internist, but the general man must, if he is a real doctor, know and practice the fundamentals of dietotherapy. Insulin is not, and cannot be, the exclusive property of the internist, for it is an emergency drug as well as a routine one in severe diabetes, and the general man must be prepared to use it.

Our own feeling is that the most essential difference between the internist and the general practitioner is not in the field of therapeutics at all, but in the examination of patients. The internist is a man who by instinct and training wishes to put more time on the individual case, to keep more complete records, and to do a kind of work that is often impossible if it is subject to constant interruption by accident cases, obstetrical patients and other emergencies. He delights in solving difficult problems, in going into

infinite detail, in studying not only the so-called practical, common diseases, but the rare, the bizarre. Were it not for him, most of the rare and complicated diseases would go undetected and unrelieved. The greater time he has for constant study makes him more valuable as a consultant in the more obscure cases. Some internists, indeed, limit their work exclusively, or claim that they do, to office, hospital, and consultation work. This is not an essential restriction in internal medicine, however. At times, it would be difficult, to say the least, to stick absolutely to this rule. For example, the writer has under his care now a patient dying of myeloid leukemia. When first seen, he was an office patient. A colleague is giving him x-ray treatment, as indicated. We, however, continue to attend him at home, and make bedside blood counts with a portable microscope—work that is of real importance to the patient, but that the general practitioner would rarely have the time or equipment to do. If some critic says that the patient should be in the hospital, our reply is that while, he is not on charity, he cannot afford the cost of a prolonged hospital stay, and he is happier dying at home.

As the present day system of medicine goes, the general man must practice internal medicine. Our own idea is that medicine has grown so that it might not be a bad idea to consider obstetrics as much a specialty as major surgery, and for doctors to choose as a life work one of three major specialties—medicine, surgery, or obstetrics, and to stick to their respective fields. This would make the medical man, or internist, the family physician. He would have, and take, the time to make thorough examinations, to study carefully the psychic make-up of his patients, and would become highly proficient in health examination work. He would not be forced to cut an examination short because some woman in labor had urgent need of him, or because Johnny chopped his foot half off with the axe. All this may be medical heresy, but we fear we are entitled to charter membership in any medical heretics' club that may be organized.

Someone suggested intravenous therapy as a special function of the internist. Our own feeling is that the best internists use this route of administration less than many general practitioners, who abuse it for a peculiar sense of glory it gives them to put a needle

in a vein, or for other motives. We have already elaborated on this in our editorial on The Use and Abuse of Intravenous Therapy in the September, 1926 number of this journal.

To sum up, we do not know of any special field of therapeutics which should be restricted to either the general practitioner or the internist. The fields overlap. We believe, however, that as medical knowledge increases, some division of labor will become increasingly necessary, that the general practitioner will gradually fade from the picture, but the family doctor never, and that the family doctor will more and more tend to become an internist, and the average internist more and more the family doctor, though a few exceptional men who have been able to build up exceptional reputations as consultants, will limit their work largely to office, hospital, and consultation work in internal medicine, coupled with clinical research.

OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*

THE FAMILY DOCTOR AND THE OBSTETRICIAN

The question has been raised of what the general practitioner should do and what he should not do in the field of obstetrics. The general practitioner should have his office equipment which would enable him to do accurately the following things:

Good scales for regularly ascertaining the weight of his patient, a record of which should be kept; a mercury blood pressure machine; pelvimeters for both external and internal measurements of the patient; a centrifuge and the chemicals for accurate analysis of the urine and a microscope. (Microscopic examination is probably more important than the chemical examination of urine.)

Also, he should train himself to make accurate physical examinations and anything abnormal in his physical findings should be looked after immediately. These include teeth, tonsils, sinus infections and any trouble he might find with the lungs, heart, kidneys, appendix, varicose veins, etc. In the latter months of pregnancy, probably more often than at any other time, patient should be examined externally to see what position the baby is in.

The section of obstetrics which is giving

our high maternal and fetal mortality lies in this group of patients. The general practitioner should abstain from doing any operative obstetrics unless he has been especially trained for it. Many patients with abnormal conditions have lost their babies, and have gotten infections and lacerations which they should not have had, if the general practitioner had been broad-minded enough and alert enough to have had his patient in the hands of some person who would coöperate with him in the handling of abnormal conditions. Specifically, the types of operations and conditions which the general practitioner should abstain from unless he has had special training in these operations are: cesarean section; version and extraction; breech extraction; prolapsed cord; prolapsed hand; face and brow presentations; occiput posterior; cases of uterine inertia; placenta previa and abruptio placenta (both conditions which should be in the hands of the best trained man in the community, coöperating with the general practitioner); forceps, where there is slight disproportion between birth canal and baby. The general practitioner, ordinarily, where it is indicated, can apply low forceps if patient is completely anesthetized, and handle the case very well. Even in these cases we have our doubts about the average general practitioner applying forceps because of the frequent damage done to the birth canal, and right often damage to the baby's head.

It would be both interesting and illuminating if we had the figures so that we could contrast the results of cases who have been carefully watched from time of pregnancy through the end of puerperium with those cases which fall into the hands of the family doctor who have not carefully watched and cared for and who have developed difficulty after long labor, which are passed over to the doctor who is especially equipped in this line of work. Then it is that he has difficulties and complications which have to be handled. It is this group of cases which is giving us so much concern; this is the group which gives us our high maternal and fetal mortality and complications. Now, there is a reason for this difference and it is primarily because the patient has not had the special care and study which her sister has been fortunate enough to have. The family doctor is usually

afraid that he will lose a few patients if he talks too much and refers too many of his obstetrical patients to the man who is especially equipped for this work. We believe fully if there could be more coöperation and sympathetic understanding between the man who is especially equipped to do obstetrics and the family doctor, the family doctor at the end of his life's work would find himself much better-off financially and certainly very much more beloved were he to take the position of being purely interested in the well-being of the patient and the welfare of her family, and would, therefore, be the first one to say to the patient, "Now, I am not expert in this line of work and Dr. ———, who is in our midst, is especially equipped and is ready at all times to coöperate and help with such cases, and I, therefore, want you to go to him and we will work together in trying to bring you through pregnancy, delivery and puerperium in first-class condition." Could this coöperation and understanding be obtained the many gynecological conditions which we now have to treat would disappear and we would have a group of patients who would support the obstetrician morally and otherwise. Of course, the obstetrician would coöperate with the family doctor, and other medical troubles which would develop would fall back into the hands of the family doctor. We dream of the day coming, we hope not far away, when there will be the finest spirit of unselfishness prevailing between the obstetrician and family doctor and there will be no sense of competition or rivalry existing. Until this day has arrived we can expect maternal mortality and morbidity, stillbirths and premature deaths of infants to remain high.

Then, we feel that it is possible, after care and thoughtfulness, there can be a division of the work in obstetrics between the family doctor and the specialist. The family doctor can remain the family doctor, looking after the general welfare of the entire family, and he can give the obstetrician this work just as he gives the work of the eye, ear, nose and throat to the specialist in that field. This will not only mean better health and elimination of premature deaths, but it will mean an economic factor which in the large affects the entire family, the community and even the State. The causes of death in this field, both

to mother and baby, are unquestionably preventable and until the public, the family doctor and the specialist have all looked at these problems in the large, they will not be solved.

PEDIATRICS

For this issue, YATES W. FAISON, M.D., Editor

THE FAMILY DOCTOR AND THE PEDIATRICIAN

A request has been submitted to this department by the Journal Editor for a discussion of the question of the reasonable division of the field of pediatrics between the family doctor and the pediatrician. Such a division is rather hard to define, as every family doctor administers to a great many children, and the pediatrician in turn is somewhat of a general practitioner with an age limit. The pediatrician is much nearer a family doctor than any of the other specialists and even more so than many of the so-called family doctors, as he cares for the infant or child in any and every condition, whereas most of the family doctors select what they will or will not treat in both adults and children.

Pediatrics, from the point of view of the care of the new born and nursing, is as old as any department of medicine, but from the standpoint of its scientific development as an entity, it is one of the youngest branches of medicine. Modern pediatrics in the United States was instituted by Dr. Abraham Jacobi, who established in 1860 the first special clinic for diseases of the young in the New York Medical College. From such a simple step sprang the teaching of pediatrics in medical schools. In 1888 Harvard established a professorship in Pediatrics for Dr. Thomas Morgan Rotch of Boston. The progress from thence on was rather rapid and continuous. The study of sick children rapidly leads to the knowledge that certain diseases are peculiar to childhood, and more than that, the child makes his own mark as it were upon the diseases that are common to adults. From the observation of the child himself is obtained a fundamental principle in pediatrics, namely, the vital difference between child and adult, and these differences are as normal as growth itself, whether they be anatomical differences, or differences of the child and adult in relation to diseases. The whole care of infants and children, sick or well, is based on

these differences, and whether they are advantageous or disadvantageous to the child, are the basis for the logical medical discriminations used by the men who have made pediatrics a specialty.

The division of the science of medicine into its various branches—or specialties, if it pleases—has without doubt brought about the marvelous and forward strides that have been made in recent years, as in no other way could the attention, time, and work have been concentrated on the different subjects. This alone justifies their several existences. Just so, pediatrics made its progress after Jacobi, Rotch, Holt and other pioneer workers pulled children's work up out of the general rut and placed it on its high plane of today.

As to the question of the division of the field of the family doctor and the doctor in any selected line of work, it strikes us that if more time, thought, and discussion were given to the correlation and coöperation of the family doctor and the pediatrician or any other branch of medicine, the profession as a whole would derive much more benefit than from a question of division. Whether a doctor seeks consultation or help from another, whether he be family doctor, pediatrician, or what not, depends upon the doctor's own sense of ability, knowledge, due consideration for his patient, honesty and conscience. It is not the idealistic question of what a doctor can do, but the practical question what a doctor can and will do. History and the progress of our profession gives the answer and has necessitated men in special lines. The field of medicine of today is so vast that only a man of very exceptional ability and mentality could even presume to attempt the practice of all branches successfully.

GYNECOLOGY

CHARLES R. ROBINS, M.D., Editor

THE FAMILY DOCTOR AND THE GYNECOLOGIST

It is a difficult matter to formulate rules that will really help in solving various border line questions that arise as to the fields to be covered by the family doctor and the specialists. We have to approach the subject with a large amount of reasonableness, and be governed by general principles. In every case

the main emphasis must be on the welfare of the patient.

The family doctor, as the name implies, is the family adviser. He is the one who is consulted when sickness arises and on whom the family relies for advice. It is therefore an obligation that he assumes as a vital part of this relation, to give the advice that is for the best interest of the patient.

The specialist is one who by special training and study and by natural aptitude and larger experience is better equipped to deal with special conditions or groups of conditions than would the general doctor. In other words, they narrow the field and increase their efficiency. Simply using the name of specialist, of course, does not make one. The fundamental conditions must be complied with, namely, aptitude, training, study, experience.

There are certain gynecological obligations that rest on the family doctor which cannot be ignored. The pelvic organs of woman enter as much into the diagnosis of her case as any other organs of the body, and a diagnosis can not be complete unless these organs are taken into consideration. In order to facilitate such examinations he should have an office properly equipped for this purpose, and unless there are good reasons to the contrary, the patient should come to the office. In fact a doctor's patients should be trained to come to his office, if possible, whatever the complaint may be, and there he can take a proper history and make the necessary tests and examinations that make his service vastly more valuable to the patient. At the same time it will be less time-consuming to himself and probably more profitable, as he can see more patients in less time, and also less expensive to the patient. In his gynecological cases, by having more experience he can make more accurate examinations. A good doctor is one who examines his patients. Many mysterious complaints become simple after a proper examination. Many inoperable cases of cancer could have been cured had the patients been properly examined at the onset of their troubles.

There are many conditions, too, which can be better relieved by office treatments at the hands of the family doctor, than by the specialist. Many women who would otherwise

go without such treatments, may be relieved without having to leave their homes.

When it comes to operations or the treatment of complicated cases or where the diagnosis is in doubt, the gynecologist should certainly treat the gynecological case. The time consumed for this purpose by the family doctor could be better employed on something else. He is not equipped to render the service to which the patient is fairly entitled, and besides, occasional operations do not pay.

Under a proper understanding there is no antagonism between the family doctor and the gynecologist or any other specialist. The work of each should supplement the other to the benefit of the patient, and also the doctors. The family doctor should make it his business to know what the specialist has found and what he has done, and the specialist should know from the family doctor what he knows about the patient. Curiously enough the patient sometimes fails to state the real trouble for which she seeks advice. The fuller the conferences of the doctors and the more intimately they work together the better will always be the result.

NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*

THE FAMILY DOCTOR AND THE NEUROLOGIST

It appears to the writer that one might describe two separate categories of specialties in clinical medicine. In one of these classifications there is a difference of handiwork and technique. Specially adept measures are employed which must be learned by years of arduous apprenticeship. Surgical procedures offer a fair example of this category. It seems logical to state that a general practitioner should not do a gall-bladder resection because that operation calls for special training and experience. The other category depends upon a willingness to learn more about the anatomy and physiology of the human organism. Under this head one might include the more intimate acquaintanceship with the signs and symptoms arising particularly from the nervous system, and forming the material for what is called neurology. Here the line of demarcation is not clearly drawn, and there are not so many *Verboten* signs. What was Osler? An internist? A general practi-

tioner? A neurologist? Barker is an excellent example of a widely rounded physician who has written accurately and well about the nervous system. Any many a more illustrious name might be cited: Gowers, Allbutt, Oppenheim, Babinski, Bramwell, and surely not least, Weir Mitchell.

To the present writer, there is need among general practitioners for more interest and inquiry into problems of the nervous system, rather than restrictions. There is a lamentable shying away from nervous symptoms on the part of the physician—an avoidance which often spells disaster to the patient. To be specific, however, with the matter in hand, what procedures and methods applicable to neurology should the man in general practice carry out, and what should he leave to someone who is more neurologically minded?—to use a rather ambiguous term. Every man practicing general medicine should familiarize himself with the common reflexes—both cranial and spinal. He should know how to test for the common types of sensory disturbances. Recognition of incoördinated movements, tremors and spasmodic motor phenomena and their interpretation is not difficult. These simple fundamentals will put him upon the track of the vast majority of the degenerative diseases of the nervous system. Acute infections, as encephalitis, either primary or secondary, meningitis, and poliomyelitis certainly should not be relegated to the position of “specialists’ diseases.” The vascular accidents—such as cerebral hemorrhage, thrombosis and embolism are most frequently in the hands of the general practitioner—and he should learn with more definiteness their etiology, course, differential diagnosis and treatment. Tumors of the brain and spinal cord should be recognized. While accurate localization may call for more detailed knowledge of nervous system anatomy than the average practitioner is willing to learn, he should at least know enough to recognize the fundamental facts. Neurosyphilis is a broad field and in it the general practitioner should learn to be at home. The only special measures necessary in the majority of cases are intravenous injection and spinal puncture, and both are simple procedures. It perhaps appears that nothing has been left for the man who styles himself a neurologist. As a matter of fact that is the impression which the writer

means to convey. The role of the specialist in neurology is essentially that of the consultant in medicine. Because of a willingness to study more anatomy and to examine motor and sensory phenomena closely, he has acquired more experience and a broader acquaintance with the problems. Therefore, he may speak with more assurance. In particular he is useful, because of his experience, in differentiating organic and functional conditions.

To summarize then—I know of no procedure, or method, which a neurologist can, or does apply, which a general practitioner may not do just as well, provided he is willing to learn the anatomy and physiology of the nervous system.

HISTORIC MEDICINE

J. G. DE ROULHAC HAMILTON
Chapel Hill, N. C.

A NORTH CAROLINA DOCTOR

Hugh Williamson, distinguished as a scientist, physician and statesman, was born in West Nottingham, Pennsylvania, of Scotch and Irish parents, on December 5th, 1735. The eldest of a large family, he was educated for the ministry, attending school at New London Cross Roads and at Newark, Delaware, and later was graduated in the first class of the College of Philadelphia, now the University of Pennsylvania, in 1757. Two years later he began the study of theology in Connecticut, and, while never ordained, was licensed and preached for a time. Becoming disgusted with the doctrinal controversies which then divided Presbyterians, and his health failing, he began to study medicine, at the same time filling a professorship of mathematics at his alma mater which had given him an M.A. degree in 1760. In 1764 he went abroad, studying at Edinburgh under the elder Monro, Whyte, Cullen, Home, Alston and Gregory; and at Utrecht, where he received the degree of M.D., under Halm and Luchman. He also attended lectures in London. He began practice in Philadelphia, but was so frail, and presumably temperamental, that having a patient usually brought on fever.

He then turned to business, but never lost interest in science and was a deep student of mathematics. For his work in that field he

was elected to membership in the American Philosophical Society and in 1769 appointed on a commission to study the transits of Venus and Mercury. He observed the comet of that year and announced an original theory respecting comets. His reports appear in the *Transactions* of the Society.

From 1773 until late in 1776 Williamson was in Europe. While there he established a close friendship with Franklin and with him conducted experiments in electricity. His *Experiments and Observations on the Gymnolus Electricus, or Electric Eel* was read before the Royal Society and appears in its *Transactions*.

He returned to America in December and went into business, first at Charleston, and soon after, at Edenton. He also resumed the practice of medicine and, volunteering, was sent to New Bern to inoculate the troops there with small pox. He was soon after appointed surgeon general of the state troops and saw active service in South Carolina. After the battle of Camden he repeatedly went into the British lines to care for American prisoners and was employed also by the British who recognized his skill.

Probably the most significant medical service in his career was rendered soon afterwards. He had become, through experience, an eager advocate of inoculation as an absolutely necessary prerequisite for military service, and in camp in the Dismal Swamp he conducted a series of important experiments to ascertain if attention to dress, diet, lodgings and drainage would reduce sickness. In a force ranging in number from 500 to 1,200 only two men died in six months.

After the close of the Revolution Williamson became a figure of note in state and national politics, serving in the legislature, in the Congress of the Confederation, in the Federal Convention of 1787, and in the Fayetteville Convention which ratified the Constitution. Possessed of an acute and practical mind, industrious and forceful, he was a valuable representative. He was also a member of the First and Second Congress of the United States. He was one of the original board of trustees of the University of North Carolina, a trustee of the College of Physicians and Surgeons, a trustee of the University of

the State of New York, a founder of the Literary and Philosophical Society of New York, and a member of the New York Historical Society.

Williamson married Maria Apthorpe of New York, and in 1793 moved to New York City where he devoted the rest of his life to literary and scientific pursuits. He died in 1819.

He was a prolific writer. Among his published works are *The Pleas of the Colonies*, *The Letters of Sylvius*, *Remarks on the Climate of America*, *Observations on Navigable Canals*, *History of North Carolina*, *Comets*, *Climate from a Medical Point of View*, *The Fevers of North Carolina*, *Report on the Origin of the New York Yellow Fever Epidemic*. His work on climate brought him great reputation and membership in the Holland Society of Sciences, and the Society of Arts and Sciences of Utrecht and an honorary degree from Leyden. The University of Pennsylvania made him an LL.D. in 1787.

Williamson is one of the most versatile figures in North Carolina history, and his ability is apparent from his success in many lines. He was a successful minister, an able and original physician, a successful business man, an original economist, a sound scholar and a scientist of high rank in America and Europe. His historical work was poor. Personally he was attractive and he was widely popular.

CURE AND CAUSE

(Campbell, David in *The Lancet* (London) Dec. 6th, 1930.)

It has often been said that if we just knew more of the cause of disease we would be able to treat it better—that research in therapy must lag behind research as to causation. Not a bit of it! We have known the cause of tuberculosis for more than half a century, we think we know the etiology of pneumonia, yet our methods and means of curing both these diseases are sadly lacking in efficiency. They are much the same, in fact, as they were when Hippocrates laid down his regimen. On the other hand, long before the malarial parasite and quinine were dreamt of, chinchona bark was being skilfully employed in the sound and successful treatment of malaria. And today, though we are entirely ignorant of the real cause of rheumatic fever and pernicious anemia, we have almost specific remedies for these diseases. Therapeutics, therefore, can advance on its own, provided new chemical substances and new biological products are placed at its disposal.

NEWS

Dr. J. K. Hall, Richmond, and Dr. L. B. McBrayer, Southern Pines, are regular contributors to this column

ANNUAL NEW YEAR'S MEETING AND BANQUET OF THE MARLBORO COUNTY MEDICAL SOCIETY

This meeting, which has become an institution, was held at Bennettsville, S. C.

From 3:00 to 4:45 the society received at the Marlboro County General Hospital.

Features of the program were addresses on: Public Medicine versus Private Practice, by Dr. Kenneth M. Lynch, President S. C. Medical Association, Charleston; Report of Progress in Medical Economics, by Dr. E. A. Hines, Secretary S. C. Medical Association, Seneca; Viosterol and Cod Liver Oil in the Treatment of Rickets, Dr. J. Buren Sidbury, Wilmington, N. C.—Discussion opened by Dr. J. P. Price, Florence, S. C.; Clinical Lecture, Dr. Joseph H. Cannon, Charleston; The Injection Treatment of Hemorrhoids, Dr. Thomas Brockman, Greer—Discussion opened by Dr. Frank M. Durham, Columbia; The Adult Types of Diarrhea, Dr. Hugh Smith, Greenville—Discussion opened by Dr. Walter R. Mead, Florence; The Thyroid Heart, Dr. R. Roberts, Atlanta, Ga.—Discussion opened by Dr. J. H. Cannon, Charleston, and Dr. Addison G. Brenizer, Charlotte, N. C.

The program was pleasantly divided into two parts by the serving of an elaborate banquet, which was followed by the introduction of a number of distinguished guests.

Present were Doctors:

NORTH CAROLINA

Charlotte—A. A. Barron, O. L. Miller, D. H. Nisbet, J. M. Northington, R. W. McKay, J. R. Shull, H. L. Sloan, S. W. Davis, A. G. Brenizer, Oren Moore, H. W. McKay.

Fayetteville—Wade Parker, R. L. Pittman.

Bladenboro—D. H. Bridger.

Monroe—A. F. Mahoney, R. D. Pearson, W. M. Love, R. H. Garren.

Albemarle—J. S. Gaskin, V. L. Bigler.

Raleigh—Bessie Lane.

Hamlet—W. D. James, M. A. Hatcher.

Gibson—J. S. Gibson, J. G. Pate, E. A. Livingston.

Laurinburg—E. A. Erwin, N. C. Hunter, F. P. James, Peter McLean, Peter John.

Laurell Hill—M. B. Wilkes.

Fort Bragg—Major J. A. Johnson, Major B. S. Burnet.

Rockingham—A. C. Everett, C. O. Bristow, J. M. Ledbetter.

Wilmington—J. Buren Sidbury.

GEORGIA

Atlanta—Stewart R. Roberts.

SOUTH CAROLINA

Bennettsville—William Evans, Jr., Douglas Jennings, P. M. Kinney, L. R. Kirkpatrick, C. R. May, T. H. Smith, D. D. Strauss.

Blenheim—C. D. Napier.

Clio—L. P. Barnes, J. A. Hamer.

McColl—J. C. Moore.

Sumter—C. B. Epps, T. R. Littlejohn, Milton Weinberg, H. L. Shaw.

Cheraw—R. J. Coney, I. S. Funderburk, O. H. Purvis, C. L. Guyton, jr.

Chesterfield—R. L. Gardner.

Darlington—C. C. Hill.

Florence—M. R. Mobley, S. R. Lucas, F. H. McLeod, J. P. Price, J. G. McMaster, L. J. Ravenel, J. T. Howell, L. B. Salters, W. R. Mead, O. T. Finklea, J. W. Lipscomb.

Charleston—J. H. Cannon, K. M. Lynch, J. C. Mitchell, J. F. Townsend.

Bishopville—N. Y. Alford.

Dillon—S. C. Henslee, D. M. Michaux, Gerald McDaniel.

Mullins—F. L. Martin, R. B. Stith.

Hartsville—William Egleston.

Marion—E. M. Dibble, B. M. Montgomery, Z. G. Smith, J. C. Moore, jr.

Johnsonville—A. G. Eaddy.

Nichols—H. B. Webb.

Kingstree—E. T. Kelly.

Society Hill—W. A. Carrigan.

Seneca—E. A. Hines.

Summerton—W. H. Carrigan.

Greer—Thomas Brockman, Sylvester Cain, jr.

Columbia—Walter Bristow, J. H. Taylor, F. M. Durham, J. A. Hayne, R. G. Hamilton, P. V. Mikell, T. A. Pitts, L. E. Madden.

Ruby—R. M. Newsom.

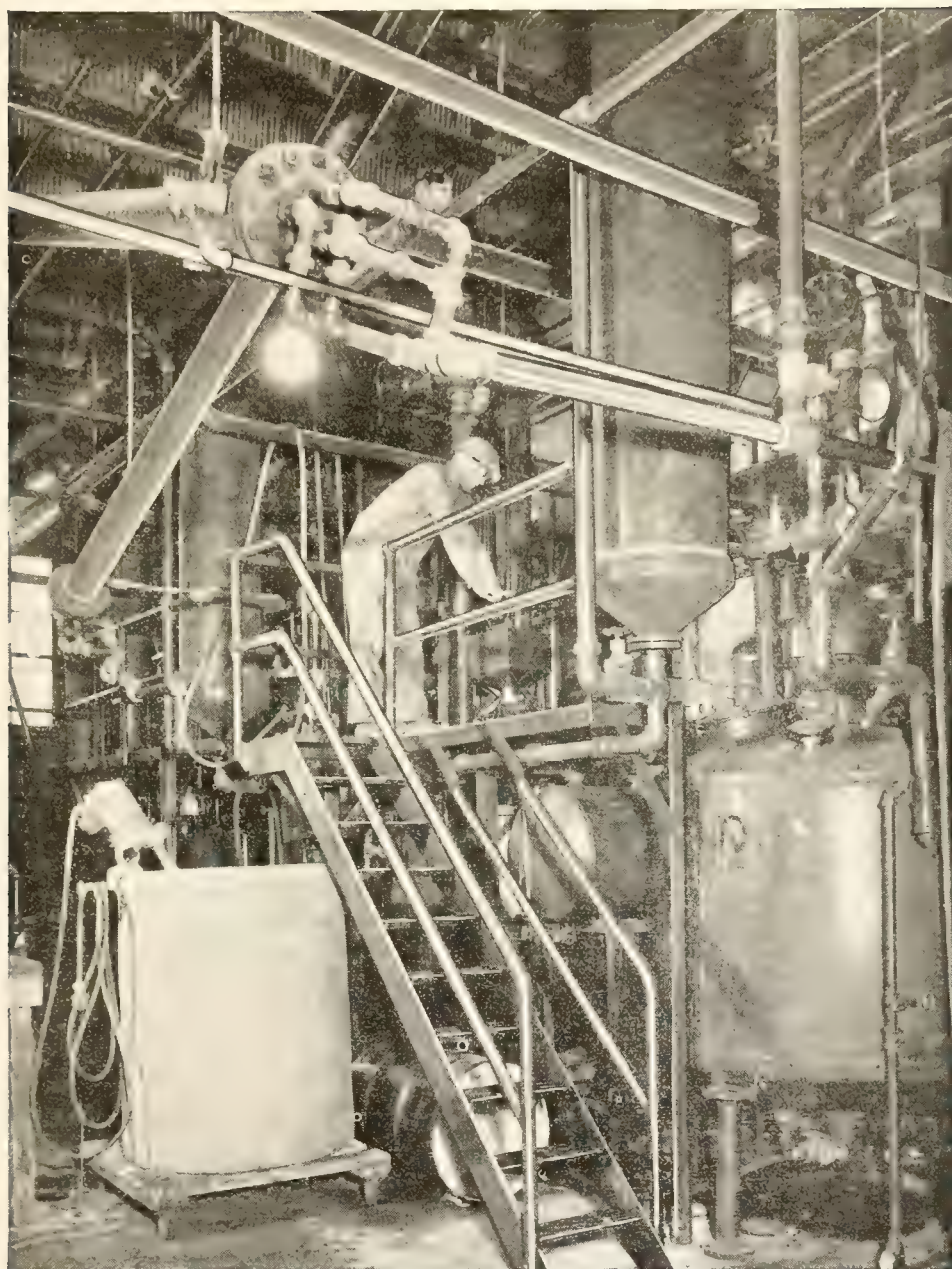
Greenville—Hugh Smith.

Conway—D. W. Green.

Lancaster—E. B. Michaux.

Program of the meeting of the CUMBERLAND COUNTY MEDICAL SOCIETY, Fayetteville, December 16th:

Invocation, Dr. J. M. Lilly; Your State Medical Auxiliary, Mrs. W. B. Murphy, Snow



Still and condensers employed in the production of Amytal and Sodium Amytal
View in the chemical department of Eli Lilly and Company, Indianapolis

**ILETIN (INSULIN, LILLY), LIVER EXTRACT No. 343
PARA-THOR-MONE, MERTHIOLATE, EPHEDRINE PREPARATIONS**



Hill; The School Child From a Nervous Standpoint, Dr. Wesley Taylor, Greensboro; Social Importance of Public Relations, Hon. Fred A. Matthes, Wilmington.

Dinner was served, and the program was interspersed with music—songs by a quartet, a violin solo by Mr. Lacy Graham and a soprano solo by Mrs. O. L. McFadyen.

At the IREDELL-ALEXANDER COUNTIES MEDICAL SOCIETY meeting January 6th, Dr. Wingate Johnson of Winston-Salem was the chief speaker, his subject, The Family Doctor. Dr. Thomas E. Anderson of Statesville spoke eloquently on the subject. Dr. J. W. Davis spoke on Leucorrhea. Drs. R. C. Tatum, S. A. Rhyne and J. W. Davis reported a case of unusual nature which was discussed by Dr. T. C. Bost of Charlotte.

Upon request that he give his views on the subject, Dr. J. M. Northington of Charlotte expressed the opinion that, although it would be but just to remove the \$25.00 privilege tax on doctors, any attempt to put this through the present Legislature is foredoomed and that it is the part of wisdom to defer such request. To his view Dr. J. W. Davis dissented.

General disapproval of raising the State Society dues was expressed.

The members present were Drs. Ross McElwee, Roy C. Tatum, S. A. Rhyne, D. S. Asbill, C. B. Herman, J. W. Davis, L. R. Shaw, M. R. Adams, F. L. Sharpe, C. W. Ashburn, T. E. Anderson, Statesville; Dr. J. S. Talley, Troutman, and Dr. W. A. Trivette, Houstonville. Visitors present were Drs. Wingate Johnson and B. B. Poole, Winston-Salem, and T. C. Bost and J. M. Northington, Charlotte.

The Fifteenth Annual Clinical Session of the AMERICAN COLLEGE OF PHYSICIANS will convene in Baltimore, Maryland, March 23-27, and in Washington, D. C., March 28th, 1931. Held in important medical centers, these clinical sessions constitute, perhaps, the most important postgraduate week in Internal Medicine each year. Those who attend the meeting will find ample in the way of clinical, laboratory, research and historical interest, well to repay them for the time spent in mak-

ing the journey. Dr. Sydney R. Miller, of Baltimore, president of the American College of Physicians, has prepared the program for the General Scientific Sessions, while Dr. Maurice P. Pincoffs, general chairman, also of Baltimore, has arranged the program of clinics, demonstrations, entertainment, etc. An additional day, March 28th, will be spent in Washington, D. C., where a special program of clinics and inspection tours has been arranged under the auspices of the Medical Departments of the U. S. Army, U. S. Navy, U. S. Public Health Service and Georgetown University. Dr. William Gerry Morgan is acting as chairman of the Washington committee. Mr. E. R. Loveland, 133-135 S. 36th Street, Philadelphia, is the Executive Secretary of the College, and it is to him that requests for further information or programs should be addressed.

THE GILL MEMORIAL EYE, EAR AND THROAT HOSPITAL, Roanoke, Va., will give its fifth annual SPRING GRADUATE COURSE in Ophthalmology, Otology, Rhinology, Laryngology, Facio-Maxillary Surgery, Oral Surgery, Bronchoscopy, and Esophagoscopy, March 23-28, 1931.

Among those giving the course are Drs.: Walter I. Lillie, Mayo Clinic, Rochester, Minn.; Andrew A. Eggston, J. Morrisett Smith, Bernard Samuels, Webb W. Weeks and E. B. Burchell, New York City; H. Maxwell Langdon, Philadelphia; R. C. Lynch, New Orleans; J. W. Jervay, Greenville, S. C.; and Elbyrne G. Gill, Booker Lee, and H. K. Vann, Roanoke.

Non-medical members are: Max Poser, Scientific Staff, Bausch and Lomb Optical Company, Rochester, N. Y.; E. O. Forshey, Scientific Staff, American Optical Company, Southbridge, Mass.; and Nathan Ridgeway, Director of Laboratories, Gill Memorial Hospital.

The members of THE CROWELL CLINIC have announced the addition to the staff of Dr. T. M. Davis, formerly of Greenville, S. C. Dr. Davis will conduct a Department of Prostatic Resection and Operative Cystoscopy.

Taken from

U.S. PUBLIC HEALTH REPORTS

Sept. 19, 1930

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- menin- gitis	Diph- theria	Influenza	Ma- laria	Mea- sles	Pellag- ra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>July, 1930</i>										
Colorado	3	27			174	23	0	22	9	15
Delaware		4			23	1,390	0	14	0	3
Mississippi	9	43	207	7,430	107	1,240	10	15	5	297
South Carolina		71	248	2,205	13	2	8	13	1	286
Texas	1	51	20	1,336			11	36		73
<i>August, 1930</i>										
Arizona	1	11	2		37		3	7	1	27
Connecticut	3	24		3	32		6	31	0	5
Delaware		6			13	1	2	14	0	29
District of Columbia	1	13	1		26	59	1	6	0	21
Georgia	3	47	34	513	45	11	12	61	3	244
Nebraska		19	2		28		4	17	36	20
New Mexico	2	32	1	79	14		5	6	12	28
Wyoming					2			15	0	3

YEAST

THE MODERN TREATMENT

In 1925, Drs. Goldberger and Tanner, U. S. Public Health Service, published cures of 26 cases of pellagra with Brewers' Yeast-Harris and advised this product for pellagra cases in doses of $\frac{1}{2}$ to one ounce daily, with due regard to other features of the diet. Brewers' Yeast-Harris is recognized as a specific remedy for this disease.

This same yeast has been widely used by the American Red Cross in combating pellagra in Southern states.

Drs. Goldberger, Wheeler & Tanner state (in Bul. No. 1009 Pub. Health Reports): "... the dry powdered yeast (well dried) keeps well and retains much if not all of its pellagra-preventive and therapeutic activity for some weeks at least. It may be administered in a variety of ways. In pellagra we have, for the most part, given it in ordinary table syrup; less frequently in canned tomato juice, and in milk.

"The beneficial effects of the yeast treatment have repeatedly been recognized by us as early as the end of the second or third day after the treatment has begun—"

The late Dr. Goldberger has repeatedly advocated a "killed culture" of BREWERS' YEAST; since otherwise occasionally with the gastro-intestinal disturbances of pellagra there will be flatulence and discomfort arising which, while not serious, are annoying to the patients.



The **HARRIS LABORATORIES**
TUCKAHOE, NEW YORK

At the January meeting of the ROBESON COUNTY MEDICAL SOCIETY Dr. J. A. Martin, Lumberton, spoke on Bronchopneumonia and Dr. E. L. Bowman, Lumberton, on Lobar Pneumonia. Discussion of a plan to obtain county aid for the two Lumberton hospitals was led by Drs. T. C. Johnson and H. M. Baker.

At the meeting of the MEDICAL ARTS CLUB OF GREENSBORO December 12th, Dr. C. H. Reaves spoke on Some of the Causes of Headaches with Special Reference to the Eyes. In the absence of Dr. W. C. Ashworth, president of the club, Dr. Casper W. Jennings, vice-president, was in charge of this session.

The CUMBERLAND COUNTY MEDICAL SOCIETY held their annual meeting in Fayetteville and elected the following officers: Dr. W. C. Verdery, President; Colonel David Baker and Dr. W. P. McKay, Vice-Presidents; Dr. O. L. McFadyen was re-elected secretary.

The GUILFORD COUNTY MEDICAL SOCIETY recently elected the following officers: Dr. H. B. Hiatt of High Point, President; Dr. D. W. Flagg of High Point, Vice-President; Dr. A. D. Ownbey was re-elected Secretary and Dr. C. W. Jennings, Treasurer.

The PITT COUNTY MEDICAL SOCIETY recently elected Dr. Joseph Smith of Greenville, President; Dr. John Winstead, Vice-President; Dr. W. M. B. Brown, Secretary and Treasurer.

At the meeting of the MECKLENBURG COUNTY MEDICAL SOCIETY Jan. 8th, Dr. L. M. Fetner gave a Demonstration of Pathological Chest Conditions, and Dr. Julian A. Moore of Asheville gave an address on The Treatment of Chronic Pulmonary Suppuration.

Dr. Moore is a member of the American Association of Thoracic Surgeons. His able presentation of the subject gave rise to general discussion.

DR. L. D. WALKER has returned to practice in Charlotte after a three months' stay in Hickory, office on the corner of Eleventh and Graham streets.

BRIGADIER GENERAL F. A. WINTER, retired Army surgeon, died Jan. 11th at Walter Reed Hospital after a lengthy illness.

DR. CHAUNCEY M. RAKESTRAW, 57, died Jan. 10th, at his home at Red Springs, N. C., after an illness extending over a period of two years.

DR. SPENCER P. BASS, Tarboro, has been chosen president of the Edgecombe-Nash Medical Society.

DR. M. R. GIBSON, Raleigh, has returned from New York where he took special work in surgical diathermy of the nose and throat.

DR. T. A. GRIFFIN, age 50, died in Morganton December 11th.

DR. CHARLES P. BOLLES of Wilmington died November 28th from accidental asphyxiation.

DR. T. M. Bizzell of Goldsboro was elected President of the WAYNE COUNTY MEDICAL SOCIETY. Dr. Cooper Person of Pikeville was elected Vice-President and Dr. D. E. Best of Goldsboro re-elected Secretary.

DR. C. G. MASSEY, who for the last six years has been health officer of Johnston County, was re-elected by the county board of health. Dr. Massey is a resident of Smithfield.

DR. W. I. HILL has been chosen county physician for Stanly County. The board went on record favoring the appointment of a full-time health officer in Stanly County.

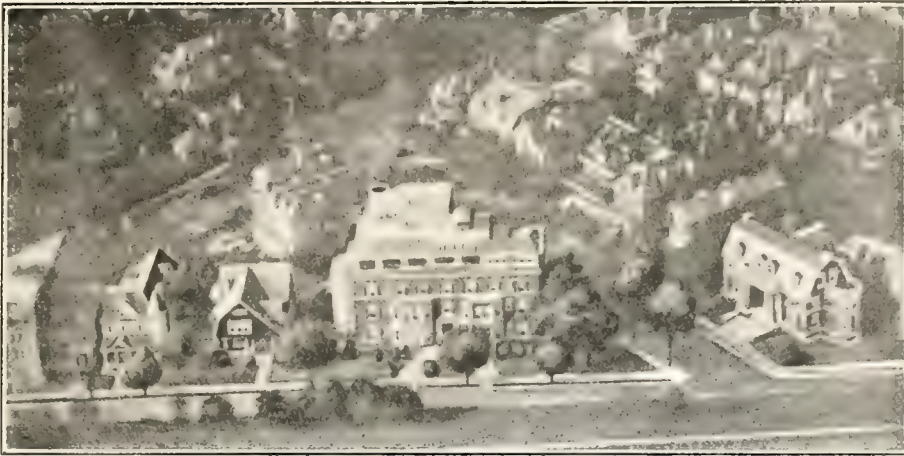
DR. L. B. McBRAYER, Secretary-Treasurer of the Medical Society of the State of North Carolina, was the chief speaker at the monthly dinner meeting of the Guilford County Medical Society at the King Cotton Hotel, Greensboro, January 2nd.

MARRIED

Dr. T. W. McBane, Pittsboro, N. C., and Miss Berta Coltrane, Old Trinity.

Dr. N. Branch Moore, Kinston, and Miss Irene Meyer, Kansas City.

THE SARAH LEIGH HOSPITAL, Mowbray Arch, Norfolk, Va.



Aeroplane view of the four buildings of the Sarah Leigh Hospital

A modernly equipped Hospital, located on the water-front in the residential section of the city, with complete facilities for thorough diagnosis and treatment, including Surgical, Obstetrical, Genito-Urinary and X-Ray Departments. A well-equipped Laboratory with the most modern Electro-cardiographic Station, and Radium.

General and Consulting Staff covering all branches.

L. L. ODOM, R.N., Superintendent.

TRAINING SCHOOL FOR NURSES

Our Medical Schools

MEDICAL COLLEGE OF VIRGINIA

Through the helpful coöperation of the Central State Hospital at Petersburg, a psychiatric institution, senior medical students of the College are now assigned for two weeks' periods to the Central State Hospital where they live within the institution and share in the unusual opportunities offered there for the study of psychiatric cases.

Dr. Stewart R. Roberts, professor of clinical medicine at Emory University school of medicine, Atlanta, Georgia, was a visitor at the College on December 10th. He spoke to the senior medical students on exophthalmic goiter and to the juniors on angina pectoris.

Dr. E. C. L. Miller, directing librarian, attended the annual meeting of the American Association for the Advancement of Science, held the week after Christmas in Cleveland, and read a paper on the development of libraries in the several State academies of science. Doctor Miller was a representative at the Cleveland meeting both of the Virginia

Academy of Science and of the Virginia chapter of the American Association of University Professors which assembled at the same time in that city.

The appropriation of the Richmond Community Fund for the outpatient department of the College during 1931 has been fixed at \$10,000 toward a budget of approximately \$40,000.

A bequest of \$2,000 with accrued interest of approximately \$1,000 has been received recently by the hospitals of the College.

The institution is working out plans for the inauguration of a postgraduate clinic to open on June 16th, 1931, for the instruction of Negro practitioners at the St. Philip Hospital, a unit of the College maintained for Negro patients and the training of Negro nurses. This clinic will run for 10 days or two weeks and will be limited to 20 students. It has been endorsed by the department of clinical education of the Medical Society of Virginia, by the executive faculty of the school of medicine of the College, and by both the State and local medical societies of the Negro profession. Financial assistance is expected from one or several of the larger foundations.

It is hoped to make the postgraduate clinic an annual event, opening after the regular session of the medical school has closed.

DUKE

Dr. David T. Smith, of Greenville, South Carolina, has joined the staff as associate professor of Medicine. Dr. Smith was formerly a member of the staff of the Raybrook, New York, Sanatorium.

The School of Nursing opened January 2, 1931. Students are admitted on the same basis as other students of the University. In addition to the three-year course leading to the Diploma of Graduate Nurse, the degree of Bachelor of Science will be granted to women who have completed successfully two years of college work (60 semester hours) in Duke University or another acceptable college or university in addition to the three-year course leading to the Diploma of Graduate Nurse in the School of Nursing. The 60 semester hours may be completed either before or after the three-year course in the School of Nursing. Those who contemplate studying for their degree should write to the Dean of the School of Nursing for advice in regard to the required course of study.

Dr. William B. Castle, associate Professor of Medicine of Harvard University Medical School, visited Duke Hospital on December 1st, and spoke on Deficiency Diseases.

UNIVERSITY OF VIRGINIA

At the meeting of the University of Virginia Medical Society on January 5th, Dr. Allen F. Voshell discussed Perthe's Disease. Dr. John Ware gave a report on Fractures of the Femur, and Dr. Halstead S. Hedges discussed Arterial Changes in the Fundus of the Eye.

On January 13th Dr. Oscar Swineford and Mr. E. K. Hawke attended the meeting of the Southeastern Virginia Post-Graduate Medical Society at Hopewell. Dr. Swineford read a paper on Pathological Physiology of Clinical Allergy and Mr. Hawke reported on Angioneurotic Edema.

Mr. Michael M. Davis, Director of the Health Unit of the Rosenwald Foundation of Chicago, visited our Medical School on January 16th.

Dr. J. Edwin Wood addressed the staff of

the Cleveland Clinic on January 21st on the subject of Hypertension.

Professor Julian Huxley of the University of London visited the Medical School on January 19th. He gave an address to the University audience on the subject of Science and Human Nature.

BOOK REVIEWS

ABDOMINO-PELVIC DIAGNOSIS IN WOMEN, by ARTHUR JOHN WALSCHEID, M.D., Director of Obstetrical and Gynecological Department of Broad Street Hospital; Director of Obstetrical and Gynecological Department of Pan-American Medical Center and Clinics, New York City. 397 illustrations, 1 color plate. C. V. Mosby Co., St. Louis, 1931. \$12.50.

An unusual and valuable feature is the consideration of disease in woman from the viewpoint of anthropology. The author aims at presenting information which can be put into daily use in practice rather than to make easy reading, yet produces a work of literary excellence. He aims away from the usual cut-and-dried type of book. In Part I, General Gynecology is discussed under introduction, etiologic factors, general symptomatology and general examination and diagnosis—and so well discussed as to well prepare for a consideration of the diseases of the various organs, in Part II, on Special Gynecology. The work is one of very exceptional merit. It supplies detailed information on knowledge of the subject to date, stimulates a desire for further knowledge, and suggests ways and means.

HOW IT HAPPENED, by ADALBERT G. BETTMAN, M.D., F.A.C.S. F. A. Davis Co., Philadelphia, 1931. \$1.00.

A book of verse; the first four lines—

From the life
Of every individual
A useful lesson
May be learned.

TREATMENT OF EPILEPSY, by FRITZ B. TALBOT, M.D., Clinical Professor of Pediatrics, Harvard University Medical School; Chief of Children's Medical Department, Massachusetts General Hospital. The MacMillan Co., New York, 1930. \$4.00.

Charlotte Nursing Home

One Square from Charlotte Sanatorium or St. Peters Hospital

Two Squares from Eye, Ear and Throat Hospital and Professional Building

Many patients come to Charlotte for stays of days or weeks who do not need to be in a hospital but who do need to be where they can receive some nursing attention at a moderate cost.

The need for accommodations for such patients has been long realized.

A practical nurse of 16 years experience has met this need.

Best of References
Every Comfort Provided

Phone 4304

Write or Phone MRS. L. S. YANDELL, 300 N. Church St., Charlotte, N. C.

Representing a conception of recurrent convulsions which has been taking form as new evidence was elicited, the book offers detailed information on dietary management which has brought about most gratifying results in a great proportion of the cases in which it has been carried out.

PHYSICS OF RADIOLOGY: For the Student of Roentgenology and Radium Therapy, by J. L. WEATHERWAX, M.A., Physicist, Philadelphia General Hospital, Associate in Radiotherapeutic Physics, University of Pennsylvania Graduate School of Medicine, with a foreword by HENRY K. PANCOAST, M.D., Professor Roentgenology, University of Pennsylvania. 126 illustrations. *Paul B. Hoeber, Inc.*, New York, 1931. \$5.00.

The foreword calls attention to the difficulties under which the early workers with x-rays labored and the means by which these difficulties were overcome. Then, in a line-upon-line way, are discussed the principles of electricity, apparatus, the atomic theory, radium, Roentgen rays, routine application, biological effects, practical application of radium and roentgenograms. There are 3 appendices, one on the report of the International X-ray Unit Committee, one of tables showing radiation rate and cumulative dosage values of radon, and one on common logarithms. The book represents a stripping of the subject of all non-essentials and the giving of the essentials in the plainest terms.

INTESTINAL TOXEMIA (Autointoxication) Biologically Considered, by ANTHONY BASSLER, M.D., F.A.C.P., Consulting Gastroenterologist, St. Vincent's,

Peoples', and Jewish Memorial Hospital, New York City; St. John's Hospital, Yonkers; Christ Hospital, Jersey City; Formerly Professor and Director of the Department of Gastroenterology and Visiting Gastroenterologist, New York Polyclinic Medical School and Hospital Formerly Professor of Fordham University Medical School. Fellow The American College of Physicians, New York Academy of Medicine. Ex-Chairman Section Gastroenterology and Proctology, American Medical Association. Illustrated with 16 text cuts. *F. A. Davis Co.*, Philadelphia, 1930. \$6.00.

Dr. Bassler's studies and researches on this subject, begun in 1899 and continued to the present, have yielded a rich treasure. Terms are carefully chosen to serve real purposes. *Bacillus bulgaricus*, *Bacillus acidophilus*, mineral oil, yeast, vaccines, dietetic fads, rest treatments, endocrine products—all are discussed in an informing manner. References are made to the work of hundreds of investigators in this field.

The intestinal canal is said to outrank all other parts and organs of the body as a site of primary focal infection.

This is not a work confined to research. It is mainly clinical, with a background of research, with chapters on—in addition to gastro-enterology—cardiology, neurology and psychiatry, otorhino-laryngology, ophthalmology, dermatology, orthopedics, urology, gynecology and pediatrics.

The book is commended to the serious, critical study of doctors generally.

SEVENTY BIRTH CONTROL CLINICS: A Survey and Analysis Including the General Effects of Control on Size and Quality of Population, by

CAROLINA HADLEY ROBINSON; foreword by ROBERT LATOU DICKINSON. *Williams and Wilkins Company*, Baltimore, 1930. \$4.00.

This is a survey of the methods and results of the work of out-patient services where means of postponing or preventing conception were prescribed by physicians, in the best interests of the individual and of the community. The delicacy of the subject is fully recognized, also the difficulties, and both are met in a straightforward manner. Whatever one may think about birth control, it can not be denied that it is a live problem, that with or without intelligent, hygienic direction, it is being widely practiced; and, in view of the critical situations, the world over, growing out of overpopulation with persons inadequately prepared for the struggle for a livelihood, means offered for correcting this state of affairs at the source are certainly deserving of study.

ACUTE GONORRHEA—MALE—A CONCEPT OF ITS MODERN TREATMENT

(Fetter, T. R., in *Pennsylvania Medical Journal*, Oct. 1930.)

Oral medication does not obtain a cure for gonorrhea but symptomatic treatment by internal medication is of great value not, however, as a gonococcicide. Potassium permanganate, in proper strength solution, is the best single chemical that we now use; the next best for general use are the time-honored silver salts in proper strengths of solution. Astringents should not be used if gonococci are still seen in the smears. Hand injections are of value if properly administered; thorough instruction being given to the patient concerning their use. Hydrosaltic irrigations are a distinct aid in acute gonorrhea if properly given, and the solutions used are of proper strength. Early instrumentation is a distinct menace to the patient, and results only in bringing on complications and spreading the infection. Vaccine therapy is of value if given in doses outlined. Its value lies in the proper application at the proper time. Intravenous medication should be thoroughly understood before employing it routinely, and an opportunity to constantly watch your patient should be insisted upon. At present, the reported results do not surpass those received from the more simple forms of treatment at our disposal. Foreign protein therapy is a distinct aid in the treatment of gonorrheal complications. Finally remember gentleness in handling your patient; decide upon a definite form of treatment, give it a fair trial, and do not jump about with substances or methods, so that the gonorrheic is impressed by your extensive knowledge of the disease and becomes mystified with the intricacies of treatment.

POINTERS IN UROLOGY

God bless the man who invented ureteral stricture. It is such a sweet morsel to roll on the tongue when you can't find any other pathology.

Boiling catheters is tough on the catheters but easy on the patient. More times than you know infection has been introduced by dirty catheters.

There ought to be a law requiring urologists to subject themselves at least once to a cystoscopy. Thereafter patients would not complain so much about the procedure.

The injection of the local anesthetic is the easiest part of a cystoscopy, yet, according to uatients, it must be the part most frequently unskillfully done—for how some of them do howl.

If you depend upon the nurse for the patency of your catheters and the proper working of the light, then you may expect to be subjected to embarrassing experiences in the cystoscopic room. Better test these things yourself.

In a considerable percentage of cases the canal of the male or the meatus of the female has to be dilated before the cystoscope can be introduced, yet how many times have you seen suitable instruments sterilized and ready for use in the cystoscopic room? Nearly always when the need for dilating instruments arises there is such a bustling and scurrying around to find and boil them.—*Urological & Cutaneous Review*, January.

MATERNAL MORTALITY HIGHEST IN U. S. (Editorial, *The Irish Jour. Medical Science*, Sept. 1930.)

The birth-rate in England has steadily fallen from the pre-war rate of 23.6 to 16.3 per 1,000. Coincident with this fall the infant death-rate, it is true, has also fallen from 109 to 70 per 1,000 births, and the general death-rate from 14.3 to 13.4 per 1,000; yet over the same period the maternal mortality rate has risen from 4.0 to 4.3 per 1,000. Holland, France and Italy can each point to a much lower maternal mortality rate; Germany and Belgium show higher, while in the United States the figure is highest of all (8.3). [Italics ours.—S. M. & S.]

No less than 38.6 per cent of the deaths investigated were due to puerperal sepsis; more than half these cases followed upon normal labour. Eclampsia—almost entirely a preventable disease—accounted for 13.6 per cent. It is deduced from the report that the net percentage of preventable maternal deaths in childbirth is as high as 48.

The report affords overwhelming evidence of the importance of ante-natal supervision in every case, as well as of the need for a higher standard of obstetrical knowledge and skill.

"I have a few corrections to make on the editorial that I submitted," he told the editor.

The editor reached into the waste basket and pulled out the editorial. "All right, but make it snappy; the waste baskets will be emptied in five minutes."—*Green Goat*.

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., Supt.)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

Obstetrics and Gynecology

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS PATTIE V. ADAMS, Business Manager

MISS FANNIE AUSTIN, Nurse

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. Urologist

CHARLES S. MOSS, M.D. Surgeon

O. J. MACLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE Pathologist

INTERNAL MEDICINE

W. O. NISBET, M.D., F.A.C.P.

D. H. NISBET, M.D.

INTERNAL MEDICINE

GASTRO-ENTEROLOGY

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park

Arkansas

JAMES M. NORTINGTON, M.D.

Diagnosis and Treatment
in

INTERNAL MEDICINE

Professional Building

Charlotte

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

FRACTURES

ACCIDENT SURGERY and ORTHOPEDICS

Wachovia Bank Building

Winston-Salem, N. C.

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

Practice Limited to

ORTHOPEDIC SURGERY and FRACTURES

Fifteen West Seventh Street
105 W. Franklin Ave.

Charlotte
Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761

Curlington

North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J

3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

Telephones—

Office—4163

Hours—9 to 5 and by Appointment

219-23 Professional Bldg.

Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.

Consultation 219 Professional Bldg.

Phone 4063

PEDIATRICS

ASHE-FAISON CHILDRENS CLINIC

11 WEST SEVENTH STREET

CHARLOTTE, NORTH CAROLINA

PHONE—3-4131

Pediatricians in Charge:

JOHN R. ASHE, M.D.

YATES W. FAISON, M.D.

E. K. MCLEAN, M.D.

ROBERT A. MOORE, M.D.

Director of Laboratory:

HARVEY P. BARRET, M.D.

Directors of X-Ray Department:

J. RUSH SHULL, M.D.

L. M. FETNER, M.D.

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

RADIOLOGY

BOOKER E. RHUDY, M.D.

X-Ray Diagnosis and Treatment

Suite 229 Jefferson Standard Bldg.

Greensboro, N. C.

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephone—3-7101

Urology:

ANDREW J. CROWELL, M.D.
RAYMOND THOMPSON, M.D.
CLAUD B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.
LESTER C. TODD, M.D.

Roentgenology

ROBERT H. LAFFERTY, M.D.
CLYDE C. PHILLIPS, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKAY and McKAY***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Professional Building**Charlotte**

Residence Phone 1858

Office Phone 1857

221 East Main Street

DR. W. B. LYLES**Spartanburg, S. C.**Practice limited to
UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

L. D. McPHAIL, M.D.*RECTAL DISEASES*405-408 Professional Bldg. **Charlotte****WYETT F. SIMPSON, M.D.***GENITO-URINARY DISEASES*

Phone 1234

Hot Springs National Park, Arkansas

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building Charlotte**RUSSELL O. LYDAY, M.D.***GENERAL SURGERY and SURGICAL
DIAGNOSIS***Jefferson Std. Bldg., Greensboro, N. C.****R. B. McKNIGHT, M.D.***SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30—5

Professional Building Charlotte**WM. MARVIN SCRUGGS, M.D., F.A.C.S.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building Charlotte**WILLIAM FRANCIS MARTIN, M.D.***GENERAL SURGERY
GYNECOLOGY***Professional Building Charlotte****HAROLD GLASCOCK, M.D.***GENERAL SURGERY AND
DIAGNOSIS*Office At
Mary Elizabeth Hospital
Raleigh, N. C.

SOUTHERN MEDICINE and SURGERY

Vol. XCIII

Charlotte, N. C., February, 1931

No. 2

The Diagnosis of Intracranial Neoplasms*

CHARLES E. DOWMAN, M.D., Atlanta, Ga.

An incidence of 0.2 per cent has usually been accepted as approximately correct for intracranial neoplasms. This is based upon the autopsy findings at the Allgemeiner Krankenhaus of Vienna, Austria. From these statistics one might state hypothetically that of the 120 million inhabitants of the United States 240 thousand will develop intracranial neoplasm. If we presume that there will be a complete turnover of the inhabitants of this country in fifty years one would expect approximately four thousand eight hundred intracranial tumors to occur each year. I personally feel that the incidence of such lesions is much greater than 0.2 per cent. My opinion is based upon the fact that not infrequently several cases of brain tumor have been referred from comparatively small communities.

In the past 25 years scarcely more than 10 thousand cranial tumors have received the benefit of surgical treatment. According to the above hypothesis 120 thousand such cases should have been recognized and operated upon. There are perhaps two explanations of the fact that so many cases of this type fail to be properly diagnosed or treated. In the first place many such patients doubtless fail to consult physicians. In the second place many of our physicians fail to recognize the symptoms and signs which should lead one to suspect the possibility of an intracranial tumor. This is not always the fault of the physician, inasmuch as the various text books have failed to emphasize many of the various neurological manifestations which should lead one to suspect the possibility of such a condition.

Most physicians have been taught that the so-called *triad* of symptoms of increased intracranial pressure, namely, headache, vomit-

ing, and disturbance of vision, must be present before the diagnosis of brain tumor can be made. As long as such teaching prevails just so long will these unfortunate patients' cases continue to be incorrectly diagnosed until the disease has become so advanced as to preclude the possibility of recovery regardless of the type of treatment instituted. In an analysis of 100 consecutive verified intracranial tumors made by Dr. W. A. Smith and myself several years ago, the very startling fact was brought out that an average of 27 months had elapsed from the time of the development of symptoms indicating an intracranial lesion to the time when the correct diagnosis was made. Such a statistical fact is anything but complimentary to the diagnostic skill of our profession.

Before discussing the symptoms and findings of localizing significance it might be of interest to discuss the various symptoms of increased intracranial pressure. The statistics presented are those which we obtained in the review above mentioned.

HEADACHE

Eighty-one of the one hundred cases gave a history of having had headache at some time in the course of the disease. *In 19 cases headache had never occurred.* In 37 headache was the first symptom noted. It was of particular interest that headache often ceased to be a symptom in the cases of supratentorial tumors, but never when the tumor was located below the tentorium. The character of the headache was usually of a diffuse throbbing nature. In spite of teachings to the contrary, we did not find that the location of the headache had any localizing significance as far as the lesion was concerned.

*Presented by Invitation to the Mecklenburg County Medical Society, Charlotte, Oct. 6th, 1930.

VOMITING

In 54 cases vomiting had been a symptom at some time in the course of the disease. In only two cases was it the first symptom noted and in both of these the tumor was located in the posterior fossa. In only 11 cases was the vomiting of the characteristic projectile type which is considered as indicating increased intracranial pressure.

VISUAL DISTURBANCES

A loss of visual acuity does not occur in cases of increased intracranial pressure until secondary atrophic changes in the optic nerve head have taken place. It is possible, for example, for an individual to have a marked choked disc for many months before the vision becomes disturbed. This is due to the fact that atrophy of the nerve does not occur until the exudate in the nerve head becomes organized to such an extent as to actually constrict the nerve fibers. It is thus seen that if the suspicion of a possible intracranial tumor be delayed until the patient complains of a disturbance of vision the lesion might possibly have existed for a considerable time. When total blindness results from a long-standing choked disc the sight very seldom returns, even though the cause of the increased intracranial pressure be removed.

It is often difficult on ophthalmoscopic examination to differentiate between a true papilledema, which is the result of increased intracranial pressure, and a papillitis, which is the result of an inflammatory process within the optic nerve and surrounding retina. It so happens that in a case of papillitis the visual acuity is markedly disturbed very early in the disease, whereas, as above stated, a disturbance of vision does not occur as a result of papilledema until very late. This clinical fact is often of great significance in differentiating between the two conditions.

In our own studies there was a marked papilledema in 55 per cent and a slight choking in 11 per cent. *In 34 of the 100 cases there was no swelling of the optic disc whatsoever.* It is thus seen that one can not rely on the history of visual disturbance nor upon the presence of a choked disc as a necessary symptom and finding if one hopes to make a correct diagnosis in cases of intracranial neoplasm.

GENERALIZED CONVULSIONS

Generalized epileptiform seizures may be a symptom of increased intracranial pressure. When such convulsions begin in adult life they will usually be found to be caused by one of five conditions, namely, brain tumor, syphilis, cerebral arteriosclerosis, cerebral trauma, or encephalitis. All cases of generalized convulsions should receive a most careful neurological examination and the possibility of intracranial tumor as a causative factor should always be kept in mind.

Convulsions of some form occurred in 39 of the 100 cases. In 21 the convulsions had definite localizing significance, in that they were either purely jacksonian in type, beginning in one extremity before becoming generalized, or were followed by a definite weakness in one extremity. In 18 cases the convulsions were of a generalized character without any localized manifestations. In several of these, however, there was no clinical evidence of increased intracranial pressure. There were several patients who had had generalized epileptiform seizures for many years and who had been treated as cases of so-called idiopathic epilepsy, who later on developed other symptoms which indicated definitely the presence of brain tumor. This was particularly true in several cases of tumor of the frontal and temporal lobes.

MENTAL DULLNESS

Although 31 of the group of 100 cases presented some form of mental disturbance, only five of these showed a type of mental dullness which was considered due to increased intracranial pressure. It is quite worthy of notice that the earlier the development of mental disturbances the greater is the likelihood that the tumor is located in the anterior part of the cerebrum.

Increased intracranial pressure in cases of brain tumor depends largely upon the location of the growth, particularly as to whether or not the lesion is so located as to interfere with the normal circulation of the cerebrospinal fluid. This fluid, which is formed mainly in the ventricles and circulates toward the general subarachnoid space, from which it is absorbed into the venous sinuses of the dura, may be so interfered with by the lesion that an increased fluid pressure results. For example, a very small tumor in the region of

the aqueduct of Sylvius may so interfere with the escape of the ventricular fluid from the cerebral ventricles as to give rise to a marked internal hydrocephalus with symptoms and findings of a pronounced intracranial pressure. On the other hand, a tumor of the prefrontal area may attain considerable size before the symptoms of increased pressure develop. This is practically true until the tumor has reached such tremendous proportions as to materially infringe upon the intracranial space. Yet some lesions may develop so slowly, replacing brain tissue in their growth, that until spinal fluid circulation is hindered, either by direct pressure or surrounding edema, intracranial pressure phenomena may be the last to develop. This explains the frequent development of symptoms and findings of localizing significance in supratentorial lesions before there is evidence of any increased intracranial pressure. It also explains the relatively early development of pressure symptoms in infratentorial tumors.

The development of localizing symptoms and findings depends largely upon the degree of involvement of areas of known function. The proper interpretation of such manifestations depends upon one's knowledge of the anatomy and physiology of the brain. In the 100 cases the tumors were located as follows: frontal lobe 10 per cent, precentral (motor area) 18 per cent, postcentral (psychotactile sensory area) 8 per cent, temporal lobe 11 per cent, occipital lobe 2 per cent, chiasmal region 10 per cent, cerebellum 18 per cent, and cerebellopontine angle 7 per cent. Other rarer locations were the pons, the lateral ventricles, the third ventricle, the corpus callosum and the falx cerebri. A discussion of the symptoms and findings which may be present in tumors of the more common locations will suffice to emphasize the importance of looking upon such symptoms and findings of localizing value as suggestive of the possibility of intracranial neoplasm, regardless of the presence or absence of the so-called symptoms of increased intracranial pressure.

FRONTAL LOBE

The most characteristic symptom of frontal lobe tumor is the history of some type of mental disturbance. Such mental disturbances may be varied in character, and may consist of definite disturbance of memory for

either long past or recent events, a disorientation in regard to time, places, or people, a change in personality, a tendency to emotional outbreaks, an indifference to sphincter control, etc. Such symptoms have naturally led many to consider the frontal lobe as the seat of the intellect. Unquestionably this is not necessarily the case, as the intellectual functions depend upon the integrity of various other portions of the brain. Nevertheless it is quite true that a large percentage of cases of tumor of the frontal lobe present some form of mental disturbance.

The area described by Broca, in the posterior part of the third frontal convolution (on the left side in right-handed individuals, and on the right side in left-handed individuals) has to do with motor speech. A disturbance of this area gives rise to a disturbance of speech which is characterized as motor aphasia. Tumors located in the left frontal lobe in right-handed individuals usually present some type of speech disturbance provided the tumor involves Broca's convolution either directly or through pressure. Such speech disturbances may be noticeable in ordinary conversation or may have to be elicited by asking the patient to repeat sentences.

In the posterior portion of the second frontal convolution is a cortical area which has to do with the performance of conjugate movements of the eyes toward the opposite side. Although disturbance of such conjugate movements of the eyes is only occasionally observed, when present such a finding has great localizing value. The olfactory bulbs lie above the cribriform plate and directly under the frontal lobe. A deep-seated frontal lobe tumor may press downward on the underlying olfactory bulb and cause a loss of smell on the same side as the tumor.

There are certain association pathways connecting the cerebellar nuclei with the frontal lobe. An involvement of these fibers by a tumor located in the frontal lobe may give rise to certain symptoms and findings indicating the presence of an ataxia which may be so confusing as to lead one to suspect the tumor of being located in the cerebellum. Such a condition is spoken of as a frontal ataxia. It may manifest itself by a disturbance of gait, a tendency to fall when the eyes are closed, a lack of synergy in the finer

movement of the extremities, or an ipsilateral tremor of the outstretched fingers. Such a tremor is present in about 50 per cent of the cases of frontal lobe tumor.

Should a frontal lobe tumor be so located and of sufficient size to exercise pressure backward on the rolandic area there may be manifestations of contralateral motor and sensory disturbance. A rather constant finding in cases of frontal lobe tumor is a weakness of emotional movements of the contralateral side of the face.

PRECENTRAL AREA

In that part of the brain located directly in front of the rolandic fissure are located the so-called motor areas. A lesion, therefore, so located will produce contralateral motor phenomena, either of an irritative nature with resulting contralateral epileptiform seizures or of a destructive nature producing contralateral paralysis. The irritative phenomena may be associated with contralateral weakness of movements. The occurrence of jacksonian epilepsy has been noted in about 50 per cent of all cases of tumor of the precentral area, whereas, contralateral paralysis of varying degrees and location has been noted in 89 per cent. The paralysis when present is of the spastic or upper motor neuron type and such findings as ankle or patellar clonus, the Babinski reflex, etc., characteristic of such a type of paralysis are usually present.

In addition to the neurological manifestations characteristic of involvement of the precentral area there may or may not be other symptoms and findings suggesting pressure on neighboring areas. Should there be pressure forward, symptoms and findings of frontal lobe involvement may be present and if the pressure be backward on the postcentral area the characteristic disturbances of a sensory nature may be observed. Should the pressure be downward on the temporal lobe certain symptoms and signs referable to this area of the brain may occur.

POSTCENTRAL AREA

Behind the fissure of Rolando in the parietal lobe is located the sensory cortex. It should be kept in mind that the various sensory impulses ascending to the brain along the sensory pathways first reach the large central ganglion known as the optic thalamus. Such gross sensations as touch and pain are

registered in this structure. The sensory pathways which connect the optic thalamus with the sensory cortex relay, as it were, those sensations which have to do with the appreciation of spatial relations. Such sensations are very properly termed *psychotactile* and consist, for example, of the ability to recognize objects placed in the hands, the differentiation between cloths of fine and coarse texture, the recognition of the differences in weight, the appreciation of the positions of the joints, etc.

A tumor located in the postcentral area gives rise to such contralateral neurological manifestations as sensory epileptiform seizures, characterized by attacks of paresthesia and due to irritation of the sensory cortical structures, or evidences of disturbance of the so-called psychotactile sensations which are the result of a lesion destructive in nature.

In addition to these evidences of direct involvement of the postcentral area there may be symptoms and signs of involvement through pressure or extension of the lesion on or into neighboring areas. For example, should there be involvement of the precentral area the contralateral motor phenomena indicating such an extension would become manifest. Should there be extension backward into the occipital lobe there would be noted certain disturbances of the visual fields characteristic of involvement of the optic radiations. Should the extension be downward symptoms of temporal lobe involvement may be manifest.

TEMPORAL LOBE

Certain of the functions of the temporal lobe are fairly well understood. In the left temporal lobe in right-handed individuals, for example, is a cortical area in which is stored the memory of sounds, language, music, etc. On the inferior mesial area of the temporal lobe is located the cortical center which has to do with the recognition of odors and taste (uncinate gyrus). In the posterior upper portion of the temporal lobe around the posterior extremity of the sylvian fissure is the angular gyrus in which are stored the memories of things seen. This visual memory center is located on the left side in right-handed individuals and on the right side in left-handed individuals. The optic radiations as they course backward from the optic thalamus

to the mesial surface of the occipital lobe run through the deeper portions of the temporal lobe.

With these physiological and anatomical facts in mind one may readily understand why tumors of the temporal lobe may give rise to certain symptoms and findings. For example, an involvement of the center for the memory of things heard will cause an inability to understand spoken language (sensory aphasia). Irritation of the uncinate gyrus will give rise to hallucinations of smell or taste. It is interesting in this connection to note that the generalized convulsions which may sometimes occur in cases of tumor of the temporal lobe may be preceded or followed by such hallucinations of odor or taste. A lesion involving the angular gyrus on the left side in a right-handed individual will cause a word or object blindness. When the tumor is so located as to involve the optic radiations as they run through the temporal lobe the patient may be conscious of an inability to see objects in the contralateral visual field. Even when such a symptom is not present a perimetric visual field study may reveal an absolute or relative contralateral homonymous hemianopsia. The patient may also complain of having visual hallucinations. When present, such visual hallucinations are usually of a complex character;—the patient may see faces, flowers, bizarre shapes and forms difficult to describe, misplaced objects floating in the air, etc. When present such visual hallucinations are usually seen in the visual fields opposite to the side of the lesion.

In addition to such symptoms and findings patients with temporal lobe lesions may give a history of having peculiar sensations termed dreamy states. Such dreamy states may be characterized by a feeling of unreality, a type of split personality, etc. Such peculiar mental phenomena suggest that the temporal lobe as well as the frontal lobe plays a large part in regulating one's mental activities.

Just as the frontal lobe is connected with the cerebellar nuclei by means of the ponto-cerebello-frontal fibers, so the temporal lobe is connected with the cerebellar structures by means of the ponto-cerebello-temporal fibers. On account of this association with the structures which have to do with equilibrium, temporal lobe tumors may sometimes give rise to certain evidences of ataxia, not infrequently

so pronounced as to lead one to suspect an actual involvement of the cerebellum. Cases have been reported in which these symptoms and findings were so pronounced as to lead to negative cerebellar explorations when the tumor was in reality located in the temporal lobe.

Just as tumors located in other areas may involve neighboring structures through pressure or extension, so in tumors of the temporal lobe certain symptoms and findings referable to neighboring areas may become manifest. The most characteristic of such findings are a facial weakness on the side opposite to the lesion, due to pressure upward on the precentral facial area, and contralateral sensory disturbances either of a psychotactile nature due to pressure upward on the postcentral area or a disturbance of the gross sensations of touch and pain due to extension inward to the optic thalamus.

OCCIPITAL LOBE

On the mesial surface of the occipital lobes are the so-called half-vision cortical centers. These centers are spoken of as the half-vision centers because the visual impulses which reach each of these centers originate in the ipsilateral half of each of the two retinae. A lesion, therefore, of the right occipital lobe which involves the right optic radiations would give rise to a cortical blindness on the right half of each retina, and when interpreted in terms of visual field disturbances would result in a so-called contralateral homonymous hemianopsia. In addition to such visual field disturbances the patient may complain of visual hallucinations. The visual hallucinations caused by occipital lobe lesions are usually referred to the opposite visual fields. In contradistinction to the visual hallucinations due to temporal lobe involvement, these are not of a complex character but usually consist of flashes of light, zigzag or otherwise in nature.

When tumors of the occipital lobe involve the parietal lobe by pressure or extension the patient may present the symptoms and findings characteristic of a postcentral lesion. Should there be pressure downward on the underlying cerebellar lobes there may occur symptoms and signs of a cerebellar character.

CHIASMAL REGION

The tumors which may be located in the region of the optic chiasm are usually primary

tumors or cysts of the pituitary gland which is located in the sella turcica directly below the chiasm, suprasellar cysts formed in the embryological remains of the craniopharyngeal duct, or meningiomas originating from the dura along the sphenoid ridge.

The manifestations of chiasmal tumors may be classified into so-called neighborhood and glandular symptoms and findings.

The neighborhood symptoms and findings are headache which may or may not be bitemporal in location, disturbance of vision due to direct pressure on the optic chiasm resulting in various visual field defects according to the location of the pressure (bitemporal hemianopsia where the center of the chiasm is pressed upon, etc.), and eventual primary optic atrophy. X-ray evidence of enlargement of the sella turcica in primary pituitary tumor or the presence of areas of calcification above the chiasm in cases of suprasellar cyst are in most instances confirmatory neurological evidence of chiasmal lesions.

The glandular manifestations depend upon whether there is a hyper- or hypo-activity of the pituitary gland. A hyperplasia of the pituitary gland with hyperpituitarism will result in overgrowth of the long bones when the condition occurs before the union of the epiphyseal lines and gigantism results. An enlargement of the acral parts of the bones when the disease occurs after the union of the epiphyseal lines produces acromegaly. As the result of such glandular hyperactivity there may be such changes in the soft tissues as great thickening, increased activity of the skin, increased hair growth, etc.

The symptoms and findings of hypopituitarism may be an increased carbohydrate tolerance, a decrease in the basal metabolic rate, adiposity, subnormal pulse, temperature and blood pressure, a loss of hair, etc.

Any involvement of the floor of the third ventricle either through pressure or extension may cause certain disturbances of the so-called vegetative centers which are supposed to be located in this structure. Such symptoms may be an increased output of urine (diabetes insipidus), increased thirst, a tendency to great drowsiness (narcolepsy), and polyglandular manifestations such as amenorrhea, etc.

CEREBELLUM

The cerebellum with the cerebellar nuclei

has to do principally with the coördination of movements. The symptoms and findings suggestive of tumor of the cerebellum are therefore principally evidences of disturbance of this function, and consist in general of staggering gait, an unsteadiness or actual falling when standing with the eyes open or closed, a disturbance of coördinated movements of the extremities, a nystagmus, etc. On account of the close proximity of many of the cranial nerves, neurological evidence suggesting involvement of certain of these nerves may be present and indicative of direct pressure. The nerves which may be thus involved are principally the 9th, 10th, 11th and 12th. On account of early interference with the normal circulation of the cerebrospinal fluid from the ventricles to the subarachnoid space, in cases of posterior fossa tumor such cases usually develop signs and symptoms of increased intracranial pressure relatively early in the progress of the disease.

A favorite site of intracranial neoplasm in children is the fourth ventricle. Such tumors are very frequently medulloblastomata, a very embryonic type of glioma. On account of the location of such tumors the signs and symptoms of increased intracranial pressure may be the only findings for a long period of time and evidences of cerebellar involvement may not appear until late in the course of the disease.

CEREBELLO-PONTINE ANGLE

The most common tumor located in the cerebello-pontine angle is a fibroblastic tumor originating from the sheath of the 8th cranial nerve. The symptoms and findings of such a tumor are usually characteristic. They consist as a rule of the history of tinnitus on the side of the lesion for many months or years before the development of unilateral deafness. As the tumor increases in size pressure is exerted upon the neighboring cranial nerves, particularly the 5th and 7th. Such cranial nerve involvement gives rise to such findings as a disturbance of sensation in the distribution of the 5th cranial nerve with loss of corneal reflex, and at times the history of neuralgic pains in the side of the face, and a paresis, more or less complete, of the facial movements on the side of the lesion. As pressure on the neighboring cerebellar structures occurs, the various signs and symptoms of cerebellar involvement appear. As in other

tumors of the posterior fossa an interference with the normal circulation of the cerebrospinal fluid will give rise sooner or later to the symptoms of increased intracranial pressure.

The symptoms and findings of tumors located in other areas of the brain will not be discussed at this time. The localizing symptoms and manifestations which have already been enumerated have been emphasized in order to bring out the importance of keeping in mind the possibility of an intracranial neoplasm when such symptoms and signs are found to be present regardless of whether or not the patient has any of the symptoms and findings of increased intracranial pressure.

DIAGNOSIS

Careful neurological examination should enable one to make a correct localizing diagnosis in approximately 75 per cent of the cases of intracranial neoplasm. This leaves about 25 per cent in which accessory methods of examination will have to be employed in order to aid in the diagnosis.

Routine roentgen-ray studies of the skull will sometimes disclose findings of great diagnostic significance. As the result of long-standing increased intracranial pressure one may find generalized convolution atrophy changes in the skull. Such areas of rarefaction are particularly prominent in the frontal and temporal regions. They have no localizing significance. It so happens that fibroblastic tumors originating from the dura (meningiomas) are sometimes accompanied by an abnormal thickening of the skull directly over the tumor. Such areas of thickening may sometimes be felt on palpating the skull. At other times even when not of a sufficient degree of prominence as to be noticeable on palpation the roentgen-ray plate will reveal their presence. When such areas of abnormal thickness of the skull are discovered on roentgen-ray examination one should strongly suspect the presence of an underlying meningioma. Abnormal deposits of calcium in tumors or cysts sometimes occur and when disclosed by the roentgen-ray have great diagnostic value. As already mentioned the suprachiasmatic cysts which originate from the craniopharyngeal duct usually have calcium deposits in the cyst wall and can be seen on the roentgen-ray films. Certain gliomata of large meningiomata also occasionally contain

deposits of calcium. This is particularly true in that very benign type of glioma spoken of as oligodendroglioma, and in this particular type of tumor is a fairly constant finding. Large meningiomas also occasionally contain a sufficient amount of calcium deposits to be depicted on the roentgen-ray films. Superficially located cysts and tumors occasionally, through direct pressure, cause a localized area of rarefaction of the skull directly over the lesion. When such localized areas of rarefaction are found they likewise have definite diagnostic significance. It so happens that in 60 to 70 per cent of adults the pineal body (which is located just above the third ventricle in the center of the skull) contains calcium. When such a shadow can be demonstrated a correct antero-posterior view may show the pineal shadow to be shifted toward the side opposite the cerebral hemisphere which may contain a large neoplasm. The presence of such a pineal shift is occasionally of great value in helping one to determine which cerebral hemisphere is affected, particularly in those rare cases in which there is evidence of an ipsilateral paralysis. Tumors of the acoustic nerve through direct pressure may cause a definite erosion of the petrous bone in the region of the internal auditory meatus. When such a bone erosion is present an antero-posterior view of the skull taken at the angle which will show the posterior border of the petrous bone will not infrequently disclose a definite notching in the region of the tumor (Towne).

In those cases in which a correct localizing diagnosis can not be made by neurological examination or by the routine roentgen-ray studies of the skull, ventricular air studies as first advocated by Dandy may give valuable aid to the correct location of the lesion. The ventricles of the brain which are filled with fluid are not depicted by the usual roentgen-ray methods. If, however, ventricular punctures are done and the ventricular fluid is replaced with air, the air will cast a shadow on the roentgen-ray films. A knowledge of the normal size, shape and position of the cerebral ventricles will thus enable one to determine whether or not the ventricles are enlarged, displaced toward one side or the other, collapsed, or otherwise affected, by the direct pressure of a cerebral neoplasm. By

the use of this method we were able to correctly diagnose 14 of the 100 cases already mentioned. Without the use of this method it would have been impossible to make a correct localizing diagnosis in these 14 cases. In order to minimize the danger of such a method of examination one should be prepared to follow the examination immediately with the indicated operation.

The ideal to be attained in the diagnosis of intracranial neoplasm is not only to be able to make a correct preoperative localizing diagnosis but also to predict if possible the type of tumor which may be encountered. The percentage of correct preoperative pathological diagnosis is naturally much smaller than that of correct localizing diagnoses. As our experience increases, however, we are gradually learning that the clinical history varies to a certain extent in tumors of the various pathological types. It so happens that there are many varieties of intracranial tumors. For example, there are the fibroblastic tumors originating from the membranes and in the cranial nerve sheaths, various tumors of vascular origin, adenomata of the pituitary gland, cysts of the pituitary gland, and suprasellar cysts originating from the craniopharyngeal duct, and a large group of tumors composed of cells of the glial system. This glial group constitutes approximately 60 to 65 per cent of all intracranial neoplasms. There are several types of glioma and the recognition of these various types is of great importance from a prognostic standpoint. For example, it is known that the more highly differentiated from the early embryonic type of glial cells the less malignant is the tumor. Among the highly differentiated types of glioma may be mentioned the oligodendrogliomata, the fibrillary and protoplasmic type of astrocytoma and the ependymomata. Tumors composed of these types of glial cells are usually of slow growth and of relatively low malignancy. Of the very malignant types of glioma may be mentioned the so-called spongioblastoma multiforme, a very malignant tumor, primarily of adults, which can not be cured either by removal or by radiation; and the medulloblastoma, a tumor particularly prevalent in children, which is usually located in the fourth ventricle, and which fortunately in many instances is quite radiosensitive.

It is thus seen that an accurate knowledge of the exact pathological type of intracranial neoplasm is of the greatest clinical importance, and allows one to predict fairly accurately as to whether or not the tumor can be successfully removed, or in case a complete removal can not be effected a fairly correct prognosis can be made as to the eventual life history of the individual case.

IN CONCLUSION I would like to emphasize again the following:

1. That the incidence of intracranial neoplasm is much greater than is suspected either by the laity or by the medical profession.
2. That many cases of intracranial neoplasm are either never diagnosed or else the correct diagnosis is not made until very late in the disease.
3. That the usual so-called signs and symptoms of increased intracranial pressure, although of great diagnostic importance, are often absent in cases of intracranial neoplasm until very late in the progress of the disease.
4. That there are many neurological symptoms and findings which may be present independent of the signs and symptoms of increased intracranial pressure which should lead one to suspect the possibility of an intracranial tumor.
5. That the medical profession as a whole should be constantly on the lookout for such signs and symptoms of localizing significance if the ideal of making an early diagnosis of intracranial tumor is to be attained.
6. That a routine neurological examination should make it possible to arrive at a correct localizing diagnosis in about 75 per cent of the cases.
7. That the routine roentgen ray examination of the skull and the occasional use of ventriculography will permit one to make a correct localizing diagnosis in the majority of the remaining 25 per cent.
8. That the correct prognosis of the eventual life history of patients having intracranial neoplasm depends not only upon the early recognition of the disease and the correct localizing diagnosis but also upon the pathological type of the individual tumor and the application of the proper kind of treatment.

—158 Forrest Ave. N. E.

The Treatment of Pulmonary Suppuration*

JULIAN A. MOORE, M.D., M.M.S., Asheville, N. C.

The term pulmonary suppuration is a broad one and includes various pathological conditions in the lung itself. It does not include empyema or tuberculosis, though suppurative lesions may be associated with those diseases.

The disease manifests itself in many forms. It may be only a mild affair and clear up within a short time, as are most so-called unresolved pneumonias; or the course of the infection may be fulminating, as in the virulent, acute pulmonary abscesses; or the process may be mild and chronic and last for many years, as in most cases of bronchiectasis.

The pathology may consist of:

1—a necrosis of an area of the pulmonary parenchyma—a true pulmonary abscess;

2—a dilatation with infection and degeneration of the walls of the bronchi—a bronchiectasis;

3—a non-cavernous suppurative pneumonitis. This lesion as it heals may leave considerable fibrosis, with subsequent dilatation of the bronchi. It may not heal and may break down and form a single large abscess, or more commonly many small abscesses. The lesion produced by Friedlander's bacillus is an interstitial pneumonitis with the formation of numerous small abscesses.

In many cases all of these lesions co-exist, but as a rule one or the other predominates, though it is at times impossible to determine the predominating lesions. Interstitial pneumonitis and parenchymal abscess formation often accompany bronchiectasis, which itself is often the end result of an interstitial pneumonitis. Pulmonary abscess may be secondary to an existing bronchiectasis or vice versa.

The organisms involved in the etiology are numerous. All of the pus-forming cocci, aerobic and anaerobic, which inhabit the respiratory passages play a part in the causation of the disease. The fusospirochetal group of anerobic organisms are often present. Whether they are primary or secondary invaders is not definitely known. David Smith¹ ascribes to them a primary role and has called

attention to their importance in the pathology of primary bronchiectasis.

The causes of lung suppuration are numerous. Of these the most common and important are:

1—aspiration of foreign bodies into the bronchi;

2—aspiration of septic material into the trachea and bronchi during operations especially those around the nose, throat and mouth;

3—septic infarcts;

4—pneumonia;

5—prolonged bronchial obstruction by neoplasms strictures and aneurisms;

6—as a sequela to atelectasis—Coryllos²;

7—repeated respiratory infections.

In connection with the etiology of bronchiectasis and lung abscess must be emphasized the oft-repeated observation that these two diseases frequently are associated with infection of the nasal sinuses and pyorrhoea alveolaris. To fail to remove these conditions will mean a failure to cure the pulmonary lesions.

The diagnosis of suppurative lesions of the lungs is not always easy, as physical signs are often fewer than the extent of the lesions would indicate. Roentgenograms, following the injection of iodized oil into the tracheo-bronchial tree, and bronchoscopy will, as a rule, establish the diagnosis. A careful history is essential, and in cases of foreign bodies will clearly indicate the treatment to be followed.

Treatment of these conditions is far more hopeful than it was 10 years ago. Since the etiology and pathology is now more clearly understood, intelligent management can only be given to these patients through the coöperation of the internist, the bronchoscopist and the surgeon. Conservative measures should always be used first. If they fail more radical measures should be used. I shall now discuss the measures to be used in the treatment of these three types of suppuration.

A—NON CAVERNOUS SUPPURATIVE PNEUMONITIS

Medical means should be first used. Absolute bed rest, fresh air, a high caloric diet and

*Presented by Invitation to the Mecklenburg County Medical Society, Charlotte, Jan. 8th, 1931.

general supportive measures should be instituted and kept up for several weeks after the clinical and roentgenological evidence of the disease has cleared up. Cough should be stimulated, not suppressed. In early cases the inhalation of carbon dioxide will stimulate coughing and expectoration of secretions. Postural drainage should be instituted if the patient is not too ill. Should there be any suspicion of a foreign body, or if the patient is not progressing satisfactorily, bronchoscopy should not be delayed.

If a reasonable trial of these measures have not sufficed, or if the lesion has progressed to that of cavitation, the patient has entered into a phase where conservative surgery offers him the best chance of recovery, and to delay further subjects the patient to the danger of cerebral abscess, severe hemorrhage, extension of the process and permanent damage to the heart, lungs and kidneys, thus jeopardizing his chance of cure by any method.

During this stage a temporary interruption of the phrenic nerve will often suffice to establish a cure (Alexander and Buckingham³), if not more radical surgical means will have to be adopted and they cannot be used if more than one side is involved. They are usually indicated when only one lung, or preferably one lobe, is involved and when there is cavitation. I shall discuss them in detail later.

B—PULMONARY ABSCESS

Fortunately about 25 per cent⁴ of pulmonary abscesses will heal spontaneously. The treatment of all cases except those in which a foreign body is known to be present should be palliative. The conservative means are those which I have outlined above with particular emphasis on postural drainage. If spirochetes can be found in the sputum nearsphenamine intravenously should be given.

In some acute and subacute abscesses situated near the hilum artificial pneumothorax will bring about a cure. However, artificial pneumothorax is attended with some danger and should never be used for abscesses situated near the periphery, because of the danger of rupture into the pleural cavity with the production of a highly dangerous empyema. I am in accord with the opinion of Alexander³ that artificial pneumothorax is not suitable for the average case of abscess.

In acute, subacute, and less often in chronic

pulmonary abscesses, bronchoscopic drainage will cure a goodly per cent. I believe every pulmonary abscess should be given the benefit of bronchoscopy before radical surgery is used provided an expert bronchoscopist is available. If a foreign body is present removal will, as a rule but not always, lead to a cure. Again the bronchoscopist may be able to dilate a stenosed bronchus leading to the cavity and promote adequate drainage. It has been estimated that about 10 per cent of pulmonary abscesses are the result of malignancy and in not a small percentage of cases the diagnosis of the tumor can only be established by means of the bronchoscope. I do not believe that it is justifiable to continue bronchoscopy indefinitely. If bronchoscopy after a few treatments does not bring about a marked improvement it should be discontinued.

If these measures have not sufficed surgery is indicated. In a small number of subacute and chronic pulmonary abscesses, particularly smaller ones, a temporary interruption of the phrenic nerve will allow the lung to relax enough to permit closure and healing of the cavity. In four to eight months the function of the diaphragm will return. I have seen phrenicectomy produce brilliant results and I have seen it fail, but I have never seen harm result from it except in one instance. It is the best procedure to control hemorrhage from an abscess or bronchiectasis.

In subacute and chronic cortical lung abscesses radical surgery is indicated. Pulmonary abscesses should never be operated on in the acute stages because the mortality is about 65 per cent⁵. On the other hand operation should not be delayed too long after the onset of the disease. Sauerbruch⁶ states that it is safe to operate eight weeks after the onset, and that operation should not be delayed much longer. However, most cases will not be operated on that early. If you are obtaining definite and continuous improvement you are justified in continuing conservative measures. But as soon as a relapse occurs or conditions reach a standstill operative interference should not be delayed further. To do so jeopardizes your chance of curing your patient. One reason for the high operative mortality in pulmonary abscess is that so often the patient reaches the surgeon *in extremis*.

I would like to discuss several points in regard to the technic of draining a pulmonary abscess.

1. The patient should empty his abscess by postural drainage just before operation. This is a safeguard against purulent secretions being aspirated into the other lung during operation. I do not believe bronchoscopic drainage should be done just before operation as it exhausts the patient.

2. Local anesthesia should be used if possible.

3. The approach should be posterior if the abscess is in the lower lobe and anterior or lateral if in the upper lobes.

4. Lateral x-rays are a great help in locating the abscess.

5. A wide exposure should be made. If necessary remove three or more ribs and the intercostal bundles.

6. One must always be sure that the two pleural layers are adherent before opening the abscess.

7. If the pleurae are not adherent gauze should be packed against the parietal pleura and drainage deferred for several days.

8. I am unalterably opposed to tube drainage of a pulmonary abscess. In the first place it is inadequate drainage and in the second place even though it is a soft tube it may erode a blood vessel and cause a severe hemorrhage.

9. The abscess should be first located by the aspirating needle and the outer wall removed by cautery so that a wide opening is made. The abscess cavity should be packed with vaselined gauze.

10. Do not worry about residual bronchial fistulae. They usually heal themselves and if not they can be closed by a plastic operation.

11. If there is more than one cavity the abscess will not heal until all cavities are opened and draining freely.

12. If an entire lobe is involved with numerous small cavities the cautery pneumonectomy method of Graham⁴ is applicable. By this method all the diseased lung tissue is reamed out by the actual cautery in stages.

C—BRONCHIECTASIS

The treatment of bronchiectasis will vary according to whether the lesions are limited to one or more lobes, the amount and foulness of the sputum, the presence or absence of hemoptysis, the age of the patient, his at-

titude toward his condition and the frequency of fresh attacks of bronchopneumonia.

In all cases medical treatment should be given a thorough trial. In many bilateral cases medical treatment is all that can be offered and it helps but little.

Of first importance is the clearing up of infections around the sinuses and teeth. If the sputum contains spirochetes, injections of neoarsphenamine should be given. Expectorants are of little value. Postural drainage every three hours during waking hours should be practiced by the patient. The patient should be instructed how to do this and made to do it. If the bronchi can be kept emptied of their infected secretions the toxemia will be diminished and much general improvement will follow. General supportive measures, as tonics, high caloric diet, rest and fresh air all help.

In early and in mild cases these measures may suffice to greatly ameliorate the condition. If these measures fail, the patient, if economically able, may get considerable relief and live with greater comfort in a warm dry climate.

After the disease has become advanced nothing much can be accomplished by medical means. Bronchoscopy is not of much benefit in these cases unless a foreign body is present and can be removed or a stricture is found and can be dilated. Postural drainage will accomplish the same thing as bronchoscopic drainage.

In some of the milder unilateral cases phrenicectomy followed by postural drainage and general treatment will often improve the patient and occasionally effect a cure. In a series of 18 cases of bronchiectasis reported previously by me⁷ 35 per cent received benefit from phrenicectomy.

Artificial pneumothorax in unilateral cases will greatly improve the symptoms but as soon as it is stopped the symptoms return. It is attended with a high incidence of empyema. Sometimes it may be the only surgical procedure we can use.

If a patient has a far advanced bilateral bronchiectasis nothing surgical can be done except perhaps a bilateral bronchostomy which is probably not worth the effort, though in a few cases it has been reported to have given considerable improvement.

If the disease involves both lobes of one lung artificial pneumothorax can be used and

if it produces great benefit, it can be supplanted by a complete multiple staged extra-pleural thoracoplasty. Hedbloom⁸ advocates this operation for bronchiectasis and claims that he gets great improvement in many cases and cures in some. This is not the experience of other workers.

If the disease is situated in one lobe of the lung, and if all other more conservative means have failed, the patient should be offered lobectomy. Some type of lobectomy is the only means of eradicating the diseased tissue and the only hope of cure. If the patient comes through the operation, he will be cured.

A number of factors have to be taken into consideration before the operation should be done—such as; the age of the patient—it is not worth the risk to old people; the general condition of the patient—patients with heart or kidney damage or a low blood pressure are not good risks; the mental attitude of the patient—as a rule these people are miserable, being shunned by their friends and even relatives and they are willing to take the risk.

The operation carries a high mortality. The one-stage lobectomy of Lillienthal⁹ has a mortality of 47 per cent; the two-stage exteriorization method of Whittemore¹⁰ 20 to 30 per cent; and the cautery pneumonectomy method of Graham⁴ 15 per cent. On the other hand the mortality rate of bronchiectasis is high. They all die of their disease and their remaining days are spent in miserable invalidism.

If all conservative means have failed, the facts should be put squarely before the patient, both the facts about his disease and the risk of lobectomy. Most of these patients will elect the operation.

Of the methods of lobectomy I prefer to do the two stage operation of Whittemore¹⁰ if there are no adhesions present. If the pleurae are adherent the cautery pneumonectomy of Graham is the operation of choice¹¹.

In Whittemore's operation three ribs are removed during the first stage and at the second stage the lobe to be removed is ligated near the hilum with heavy braided silk ligatures and brought out of the wound. The muscles and skin are tightly closed around the lobe. In about ten days to two weeks the lobe sloughs off and a bronchial fistula remains which will close by itself as a rule. The space occupied by the removed lobe is

gradually obliterated by the rise of the diaphragm, the hypertrophy of the remaining lobe and the sinking in of the chest wall where the ribs were removed.

The method of Graham consists of removal of the diseased lobe by reaming it out with the cautery in many successive stages.

The results of lobectomy are truly startling.

In conclusion, I wish to emphasize the following two points.

First. The treatment of lung suppuration is a problem for the internist, the bronchoscopist and the surgeon to direct as a team.

Second. In all cases conservative measures should be tried first, but radical measures should not be delayed too long.

Bibliography

1. SMITH, DAVID T.: Etiology of Primary Bronchiectasis. *Archives of Surgery*, 21, 1173, Dec., 1930.
2. CORYLLOS, POL N.: Post Operative Pulmonary Complications and Bronchial Obstruction. *S. G. O.*, 50, 795, May, 1930.
3. ALEXANDER, JOHN, and BUCKINGHAM, W. W.: Treatment of Non-Tuberculous Suppurative Pneumonitis, Abscess and Bronchiectasis. *J. A. M. A.*, 95, 1478, Nov., 1930.
4. GRAHAM, EVARTS A.: The Treatment of Pulmonary Suppuration. *Annals of Surgery*, 86, 174, Aug., 1927.
5. SPECTOR, H. I.: Lung Abscess. *J. A. M. A.*, 95, 789, Sept. 13, 1930.
6. SAUERBRUCH—Quoted by ALEXANDER, JOHN, and BUCKINGHAM, W. W.: Treatment of Non-Tuberculous Suppurative Pneumonitis, Abscess Bronchiectasis. *J. A. M. A.*, 95, 1478, Nov., 1930.
7. MOORE, JULIAN A.: Phrenicectomy in the Treatment of Pulmonary Diseases. *Arch. Surg.*, 20, 175, Feb., 1930.
8. HEDBLOOM, CARL A.: Uncomplicated Unilateral Bronchiectasis, Late Results of Extra-pleural Thoracoplasty. *Arch. Surg.*, 14, 389.
9. LILIENTHAL: Thoracic Surgery. *W. B. Saunders Co.*, Phila., Vol. II, Chapter 23, pp. 174 et seq.
10. WHITTEMORE, WYMAN: The Treatment of Such Cases of Chronic Suppurative Bronchiectasis as are Limited to One Lobe of the Lung. *Annals of Surgery*, 86, 219, Feb., 1927.

TREATMENT OF DISSEMINATED SCLEROSIS

(Whitman, Tracey J., discussing Essay of Purves-Stewart, Sir James, in *Jour. Nervous and Mental Diseases*, Dec. 1930.)

The sole therapeutic measure which we now use is the system of purposive, conscious, directed psychotherapy, and reeducation, which Dr. John McKenna has taught us. His results have been no less dramatic than those obtained by medical and physical means and promise to be better founded and more permanent.

Relation of Inguinal Hernia to the Workman's Compensation Act

HERBERT F. MUNT, M.D., Winston-Salem, N. C.

It has been my experience in handling employees that come under the Workman's Compensation Act that there is always an alleged strain or injury that caused his or her hernia. It is for the doctor to decide if the alleged strain or injury caused the hernia or the hernia was present before the alleged accident, and if present, is it congenital or the result of some former traumatism. It is believed by a large number of surgeons that all inguinal hernias are congenital except possibly those produced by direct violence to the groin. A few surgeons believe that, in some cases where the muscles forming the inner guard to the inguinal canal fail to contract reflexly, a hernia could be produced by the gut forcing its way into the inguinal canal through this shutter-like arrangement at the internal inguinal ring.

I feel that it would be wise to review the anatomy and embryology of the groin and get a clear understanding of the inguinal canal. The inguinal region is the lower lateral zone of the abdomen and through this zone runs the inguinal canal. The canal contains the spermatic cord and the ilio-inguinal nerve in the male, and the round ligament of the uterus and the ilio-inguinal nerve in the female. The canal is oblique and about four cm. long, slanting downward and inward, placed just above and parallel with Poupart's ligament. It extends from the abdominal inguinal ring to the subcutaneous inguinal ring. It is bounded posteriorly by the transversalis fascia, extraperitoneal connective tissue, peritoneum, conjoined tendon and reflected Poupart's ligament; above by the arched fibers of the internal oblique and the transversalis muscle; below by the union of the transversalis fascia and Poupart's ligament; in front by the skin, superficial fascia and the aponeurosis of the external oblique throughout its whole length and by the internal oblique in its lateral one-third. The conjoined tendon of the internal oblique and the transversalis is formed mainly by the lower part of the tendon of the transversalis and is inserted

into the ilio-pectineal line immediately behind the external ring, thus serving to protect what would be otherwise a weak part of the abdominal wall. By some anatomists, it is claimed that there are two guards to the inguinal canal. The outer guard consists of the external oblique which arises from the eighth, ninth and tenth ribs and ends in the flanks on both sides of the external inguinal canal. With every effort we make the muscle guard is set reflexly into action and strengthens the outer wall of the inguinal canal. The inner guard consists of the inguinal ligament, conjoined muscle, and that part of the internal oblique and the transversalis which arises from the outer part of Poupart's ligament and passes over the internal ring to end in the conjoined tendon. When the conjoined tendon is drawn taut it acts as a shutter rather than a sphincter to the internal ring.

The cause of congenital hernia is the presence of a sac or pocket of peritoneum. As the testis descends from the abdomen through inguinal canal in fetal life, a process of peritoneum accompanies it in its descent. This process of peritoneum does not close smoothly at its point of entrance into the internal inguinal ring, and this pouching constitutes a point of lowered resistance to intraabdominal pressure. Therefore, most of us believe that the majority of hernias are the result of long-continued muscular effort in persons who have this congenital structural defect. The evidence afforded by the large number of operations performed in the last two decades supports the opinion that the most important factor in the causation of hernia is the presence of a congenital sac. This sac is present in practically all oblique hernias and in many direct hernias. The open funicular process of peritoneum is thus the actual cause of nearly all hernias, and the sudden strain, fall, or unusual effort is merely the secondary cause, forcing a piece of bowel or omentum into a pouch that already existed. Most, if not all, the best surgeons operating on so-called acute traumatic hernias, report finding adhesions

between the sac and the contents of the sac, which proves that the hernia is not of recent origin.

If we take into consideration the anatomy of the inguinal canal and the tissues that guard the inner and outer rings it is very easily seen that it would be almost impossible for a hernia to develop in a normally developed person. Great violence would be required to so rupture muscle, fascia and tendons as to produce an inguinal hernia. We would certainly expect severe pain, shock, probably fainting; and it is unbelievable that the victim of such an accident could return to work at once.

The true traumatic hernias have been designated as: 1. those due to direct violence, 2. those appearing during or following some effort or strain, and 3. those due to some disorder of the muscular mechanism of the groin. The name, traumatic hernia, should apply only to cases in which the hernia appeared immediately after violence severe enough to cause a rupture or severing of the overlying muscles, tendons and fascia. Most hernias are so-called effort hernias. Such a hernia is not the result of one effort but of repeated efforts, such as coughing, sneezing, straining at stool and lifting. In these cases the origin is always congenital, and some sudden effort, frequently such as would in no way harm a normal person, converts a partial or potential hernia into an actual hernia.

Very few employees will admit that they had a hernia before their present strain or injury. One, I found, had been wearing a truss, and another was examined and told he had a hernia four years before. So we have to be both physician and lawyer when trying to determine if a hernia is congenital or traumatic in origin and, even then, it is impossible to make a differential diagnosis in some cases. In most cases the employee will not give you any information to help make a diagnosis. I always take a history of these cases and note as far as possible all things that would be in favor of natural causes for the hernia, such as:

1. History or knowledge of hernia already existing.

2. History of hernia in childhood, which was apparently cured by a truss and has not been present for several years.

3. Any evidence of weakness of walls of the inguinal canal.

4. Presence of hernia at any other abdominal orifice.

5. Age of patient.

6. Certain conditions found during examination of hernia which would indicate that it was due to natural causes. For example, a large hernia indicates its pre-existence. A discoloration of the skin or deep depression of the skin over the hernia indicates that a truss has been worn.

Does the patient answer your questions quickly and seem to be sure he did not have a hernia before the alleged accident? Has he insurance and if so, when taken out, and who examined him? Who is his family physician? How long has he been working for present employer and nature of work? Detailed account of how he got hurt, or claimed he was hurt, what he was doing and how long he had been doing this same work; if lifting was the alleged cause, try to learn the weight of the article being lifted. Try to decide from history of injury if this employee had been normal would his alleged accident have caused a hernia. We have to determine if possible, not only if this hernia is congenital or traumatic, but did it occur months before while working for another employer, or while working for himself.

A series of questions were sent out to seventy leading surgeons of England by William Sheer in 1919 bearing on the relation of hernia to injury and the opinion of most of them were as follows: A scrotal hernia cannot develop suddenly. A sudden hernia is quite small at first. If the hernia sac is acquired, the sac and contents cannot appear suddenly as the result of strain. Symptoms would accompany the sudden first appearance of a hernia; that is, pain, tenderness, tumor and inability to continue work. It could not occur unnoticed by the person affected. Similar symptoms would occur if the hernia were present before and were increased in size as a result of the strain. This last statement is very hard to decide upon and I try to do so by taking into consideration the history, symptoms, and the following difference between recent acquired hernia and chronic hernia.

Recent Acquired Hernia

Hernia cone-shaped, base pointing inward, apex outward.

Sac of good muscular tone.

No pigmentation or darkness of skin in groin.

Ring small, thin and uneven edges.

No signs of adhesions.

As a rule rather difficult to reduce if strangulated.

Inguinal canal normal in outline.

Chronic Hernia

Hernia with apex inward and base pointing outward.

Sac relaxed and flabby.

Skin pigmented or dark due to state of superficial veins.

Ring large, edges thick and smooth.

Thickening due to adhesions and probably thickening of omentum.

Reduce frequently spontaneously and return easily on account of large ring unless adhesions present.

Inguinal canal displaced.

Where the hernia had existed before the alleged injury the pain is very slight and there is little tenderness; the injury and symptoms were not sufficient for the employee to report them immediately; in some cases he stops work for a few minutes only, or not at all. The effort, strain or injury were not sufficient to cause a hernia. The amount of injury in all these cases nor the symptoms are ever such as would indicate that the muscles, fascia or tendons have been torn, and the history is not that of an accident or injury severe enough to cause a traumatic hernia. Most of these employees will tell you they strained themselves a week, ten days or two weeks before and there was a little pain or soreness in the groin at first and now they feel a little sore when they lift. You examine them and find hernia, but this hernia is not traumatic in origin; it was present before the alleged strain or accident.

In my opinion, the term traumatic hernia should be applied to the hernias that occur and meet with the following symptoms and signs:

1. Those appearing immediately after violence, or strain severe enough to cause a tearing of the overlying muscle and fascia.

2. Those which show definite signs or give definite symptoms within the first twenty-four hours, and cause the employee to cease work immediately.

3. Those in which there is immediate descent of the hernia into the internal ring following alleged injury or strain.

4. There is history of shock, often of being nauseated and sometime faint at time of accident. If injury is so severe that the employee could not notify his employer, the said injury should be severe enough to have his family physician or to notify the employer through a second person within the first twenty-four hours.

5. The rings and inguinal canal are very tender and sore. There is pain on coughing, and as a rule the patient walks with a limp.

6. The hernia is small and does not appear out of the external inguinal ring unless the injury was unusually severe.

7. At operation, the sac is found to be small and is not adherent to the viscera or mesentery, or any of the contents in the sac.

Now, let us consider the North Carolina Workman's Compensation Act concerning hernia.

In all claims for compensation for hernia or rupture, resulting from injury by accident arising out of and in the course of the employee's employment, it must be definitely proven to the satisfaction of the Industrial Commission:

1. That there was an injury resulting in hernia or rupture.

2. That the hernia or rupture appeared suddenly.

3. That it was accompanied by pain.

4. That the hernia or rupture immediately followed the accident.

5. That the hernia or rupture did not exist prior to the accident for which compensation is claimed.

From personal communication and the Bulletin of four or five State Industrial Commissions, I find that the laws in reference to hernia in most of them are quite strict. Some states are quite lenient. As far as I can learn and from personal experience, the law in this State is quite strict and the Industrial Commission lives squarely up to the provisions of the act in regard to compensation for hernia.

I have seen eight or nine cases of hernia since the law went into effect in this State, in which the employees were claiming compensation for their alleged injuries. One of these, in my opinion, was traumatic in origin, and I advised operation, which was done without Commission hearing. Three, I proved to the employee and the employer, existed prior to

the alleged accident and the employees dropped their claims and did not desire to have a hearing before the Commission. Two or three have had hearings before the Commission and none of them was allowed compensation. One of these has taken his case to the Superior Court. I have two now to come up before the Industrial Commission. In my opinion neither of these hernias is traumatic in origin. Of one I am sure; and in the other all the evidence is in favor of the employer.

As far as I can learn, the law in this State does not provide for compensation in case a hernia becomes aggravated from his employment. Now if an amendment to the present law were made or if the Industrial Commission would disregard the gradual production of hernia and decide that the last effort, great or small, is the cause of the employee's hernia, and compensation were given on this basis; then all employees with partial or potential hernias would be financial risks which no employer would take. Applicants for work who have an established hernia could not get any kind of employment, because, as time goes on, their hernias would increase in size or they would become disabled on account of their hernias, and could claim compensation for aggravation of their old condition.

I have always felt that a physical examination should be made of all applicants for position in industry, no matter in what capacity, and the applicant classified as to his physical and mental condition and a position selected for him in which he could work to the best advantage of himself and of his employer.

In regard to hernia under the present Workman's Compensation Act, I would classify the applicants as follows:

1. Applicants with no evidence of hernia; inguinal rings and canals of normal size, not relaxed and good muscular development of the inguinal canal region, I would classify *A*. These would be suitable for any and every kind of industrial work.

2. Applicants who show evidence of relaxed inguinal rings, poor muscular development of inguinal region, no evidence of potential hernia, such as sac or slight descent of hernia into the internal ring, I would classify *B*. I would advise light work for these applicants; they would be subject to re-examination at

stated intervals and if their condition were becoming worse, I would change their classification to *C*. If employees in class *B* at any time develop acute hernia, then I would advise a hearing of these cases before the Industrial Commission for decision.

3. Applicants who show an established hernia and those with markedly relaxed rings and inguinal canal, who, on coughing, show evidence of descent of hernia into the inguinal canal through internal ring, I would classify as *C*. I would advise against the employment of a person in this class until a successful operation has been performed, or until he signs a release of his prospective employer from any and all claims for compensation as far as hernia is concerned, if the employee should become disabled as a result of this trouble. This release should be made legal and binding and a copy sent to the Industrial Commission for their files.

THE DOCTOR AND HIS PRESS AGENT

(Editorial Notes, Jour. Indiana State Medical Assn., Jan., 1931)

Every once in a while we learn that some well-trained and fairly well-known physician has employed a press agent for what perhaps he considers as an ethical way of advertising himself. Recently we had called to our attention something that for downright nerve takes the prize. First, the surgeon writes us that he has devised and put into practice a new technique for carrying out certain forms of cosmetic surgery which in his hands has been exceptionally satisfactory; second, a press agent who advertises himself on his stationery, sends a so-called scientific contribution from the aforementioned cosmetic surgeon for publication, and in the article the cosmetic surgeon toots his own horn and takes advantage of the opportunity to give his complete address; third, a news note, presumably for the public press and having the customary release note, is sent out for publication, and is very adroitly worded to cover very patent advertising of the cosmetic surgeon; fourth, in due course of time a letter arrives from the press agent saying that if the scientific article has been used, he will be pleased to have a check for 25 dollars covering the same.

FREQUENCY OF ATYPICAL SURGICAL MASTOIDITIS IN CHILDREN

(Cottle, M. H., in Illinois Medical Journal, Jan., 1931)

Persistent fever, tenderness and swelling are the group of symptoms which together call for mastoid operation; and from this standpoint the atypical percentage is decreased to less than 5 per cent.

Physical Examination in Industrial Employment With Special Reference to Tuberculosis.*

A. P. WILLIS, M.D., Candler, N. C.

The rapid growth of industry in this section and in this State has opened a comparatively new field of work for the medical profession. I happen to be in the employ of the American Enka Corporation and in that capacity have made quite a few physical examinations.

The growing complexities of our labor laws make it very necessary that every applicant for industrial employment be given a careful physical examination. It is difficult at times to decide for or against an applicant; but once admitted, your greatest difficulty may be just the beginning, namely, in keeping your charge from the Court House door. I know of no position that will so readily and completely visualize the fallibility of the race as that of medical officer of an industrial institution, and by that I mean no disparagement of our own people. It is, however, unpleasant to be appealed to, as we all are at times, to help secure funds that we feel are unwarranted.

In more than 3,500 examinations we have a good many who were unfit. Our most difficult problem has been the detection of tuberculosis. The heart comes in for its share of attention, but the depths of its secrecies are too great to fathom. I recently heard an attorney ask one of our best doctors, who happened to be on the stand as an expert, if he knew anything about the heart. He replied that he did not know a great deal about it, and did not believe that anyone else did. At any rate, the more I see of the heart the less positive I am of what it may do in any given case.

When we recall that tuberculosis gives us 10 per cent of our total morbidity and mortality, we should expect the tuberculosis specialists to call out, along with the obstetricians, pediatricians and perhaps others, that their special field is being neglected. In the matter of tuberculosis, more than any other disease, we are giving a dual service, probably as important to the applicant as to the employer.

Bronchitis, acute or chronic, is the most

frequent condition calling for elimination. The acute form with its coryza, sore throat, sense of oppression of the chest, substernal soreness, and a cough with a scant and viscid secretion, giving sibilant rales, which change around the third day to a mucopurulent secretion with bubbling rales carries no physical signs other than auscultatory, except that the inflammation extends to the vesicles, which it is not prone to do, except in the young and in the old. If the disease lasts longer than six weeks, it has likely developed into something more serious.

Chronic bronchitis as a primary disease is very rare except in the event of long exposure to some irritant such as happens to miners, millers and stonecutters; and too, chronic bronchitis is rare in early life, but is rather frequent after middle age and comes as a sequel to circulatory, chronic nephritic, bronchiectatic, or emphysematous diseases. Whether it comes as a primary or a sequel, it is more or less associated with bronchiectasis and emphysema. Where bronchiectasis is the chief factor there is expectoration of large quantities of fetid material without much change in the physical signs except auscultatory.

Where the emphysema predominates, the barrel chest with its limited lateral expansion, the hyperresonant percussion note, the impaired vesicular murmur and prolonged expiration will be in keeping with the degree of emphysema present. Also, these bronchial conditions are usually seasonal affairs, clearing up in summer time, and, aside from the diminution in the respiratory murmur and prolonged expiration, little will be noticed from the normal. In this connection, I wish to report the case of a patient who presented for examination with a barrel chest in which I fancied I would hear a great deal:

The applicant denied having a cough and expectoration, which I suspected and inquired about it. In going over the entire chest, I was surprised at hearing no rales and the respiratory

*Presented to the Buncombe County (N. C.) Medical Society, Asheville, July, 1930

murmur was nearly inaudible. This man, having been admitted sometime previously without an examination, was not laid off. Soon afterward we had a change from favorable to unfavorable weather, and I was promptly informed that he had a dreadful cough with a large quantity of expectoration.

While history, symptoms, physical signs, microscopy and radiology all have their place in the recognition of tuberculosis, physical examination for industrial employment, for the present at least, rests upon physical signs, because true histories are too often denied, and time does not permit the observation of symptoms. The microscope and x-ray consume too much time and are too expensive to justify their employment.

That auscultation is the most important means at our disposal for the detection of intrathoracic disease cannot be denied, but where the damage is slight, auscultation alone, valuable as it is, will frequently fail.

That we all make the most of inspection, palpation and percussion goes without saying. It is obvious, however, that they can not be discussed in a 15-minute paper.

The problem of deciding whether certain suspicious breath sounds are normal or abnormal frequently hinges on the history and the other physical signs. It is helpful to keep in mind that the time consumed in inspiration and expiration is as five to six, and that the audible portion is as five to one, and too, that the majority of the pathologic changes are manifested on the side of expiration.

A knowledge of the normal vesicular and broncho-vesicular murmur, where found and where most intense, is necessary. It is true that these sounds are sometimes so modified by the individual peculiarities of sound transmission that we are often unable to reach satisfying conclusions. It is difficult to become entirely familiar with the variations in normal vesicular breathing. The vesicular murmur is more distinct in youth and in woman than in man. Its intensity varies with the depth of respiration and the thickness of the parenchyma over which it is heard; hence, it is weakest over the apices and the lower borders.

Normal broncho-vesicular breathing is heard in the upper front, near the sternum and at the right apex, posteriorly between

the scapulae and over the right suprascapular region.

We should bear in mind that the two elements of broncho-vesicular breathing while heard at the same time, are produced in different locations, and when heard at points distant to its normal habitat we are entitled to assume that there exists in close proximity normal and diseased tissue. It is heard over areas with scattered small infiltrations, over normal lung bordering large infiltrations, over normal lung bordering plural effusion and over cavities surrounded by healthy tissue.

The earliest manifestation of tuberculosis is supposed to be granular breathing and is described as being a rough, sputtering type of breathing which makes you feel as though you are about to hear rales, but actually you do not.

Enfeeblement of the respiratory murmur is another valuable early sign of tuberculosis, though I feel that it is difficult to interpret. While prolonged expiration is not so early a sign as granular feeble breathing, it is more easily recognized. It is characterized by a prolonged, high-pitched bronchial quality of expiration. When heard at the left apex, it is very significant; when heard at the right, it may require collateral evidence, because of the broncho-vesicular murmur normally heard at that point.

The difference that normally exists in the apices in the auscultatory murmur and in the percussion note is a broncho-vesicular murmur with a comparatively dull percussion note for the right, as against a typical vesicular murmur and a comparatively clear percussion note for the left. That difference I have been able to demonstrate in the large majority of cases, and have found it very interesting to work out. In fact, to fail to make a studious comparison of the two sides in their entirety is the greatest sin of omission in the physical diagnosis.

Probably the most important sign of early tuberculosis is the crepitant rale, provided it is heard at an apex. As a sign of incipient tuberculosis, it is not heard on ordinary quiet breathing, but is heard at the end of a rather deep inspiration following a moderate cough. The coarser and more moist rales heard on ordinary breathing are an indication of a more advanced stage of the disease. The size of the rale is supposed to be controlled by the

size of the bronchus in which it originates, and next to the crepitant rale, which is the only rale produced in the alveoli, comes the crackling or subcrepitant rale.

The subcrepitant, or crackling, rale may be closely simulated by pleuritic friction. I quote the following in distinction:

Rales

- A. Rales are affected by both cough and breathing, and vary spontaneously.
- B. Usually moist
- C. Seem distant
- D. Not affected by pressure, nor accompanied by pain.
- E. Distribution more general, and heard posteriorly.

Pleuritic Friction

- A. Constant, not altered by cough or breathing.
- B. Dry and leathery
- C. Seem close
- D. Pressure increases both pain and friction.
- E. More localized, and usually heard in the axillary region.

The coarse bubbling rales usually indicate cavitation or bronchiectasis, and when heard over the apices they are probably tuberculous; over the posterior inferior portions with normal apices, they are probably bronchiectatic or mycotic.

The enfeeblement that goes with the more advanced stages of the disease will usually prevent those of that class from applying for employment, and our attention is most frequently called to the signs of infiltration—restriction of motion, impairment of the percussion note, broncho-vesicular breathing, exaggerated voice sounds and rales.

While we do not expect to find cavitation so often, it is none the less important of recognition. Its discovery hinges on its size and location. One author states that it is possible to recognize a cavity the size of a cherry, provided it is just beneath the pleura, and one the size of an orange located in the center of the lower lobe may give no signs. If cavitation is suspected, our thoughts turn to whispering pectoriloquy, tympany on percussion, cavernous or amphoric breathing and gurgling rales.

We should bear in mind that tuberculosis generally begins in the apices, and that when we find evidence of disease in the lower lobes, if it be tuberculous, there will be still greater evidence of disease in the upper lobes in the vast majority of instances.

ENEMATA, FROM THE ANATOMICAL AND PHYSIOLOGICAL STANDPOINTS

(Lewis, S. A., in *California & Western Medicine*,
Jan., 1931)

On the first, second or third days, postoperative, the surgeon finds that the bowels have not re-established their action. He writes for a soapsuds enema which is administered by the nurse with the patient lying upon the back. Two quarts or more are given. This great volume of water rises in the colon, rounds the curve of the splenic flexure and, because of its volume, straightens out the curves and allows its passage. On it flows through the hammock of the transverse colon distending and ballooning it out. It rounds the curve of the hepatic flexure and fills to distention the ascending colon and cecum. It can go no farther. The ileocecal valve stands guard. This inflow of an irritating fluid has been against the peristaltic waves, reversing the normal current in the entire colon. How frequently the nurse records upon the chart that the enema did not return, and was siphoned off. The over-distended colon, with paralyzed peristaltic waves which might expel the enema, has been defeated in its normal function.

In the radiographs of Case 1739 the barium enema is clearly shown backing up into the ileum. If it were intended that the contents of the colon should back up into the ileum, carrying therein debris and putrefying bacteria, no valve would have been placed there. To the frequent enema taker this performance of continually reinfecting the ileum must be a factor in ileocolitis. Dr. Roland S. Cummings, in a recent paper, states that lycopodium dusted over the anal orifice has been found in the buccal cavity the following morning. We have the chronic enema takers with us always, those who have no normal bowel movements because they wash out the mass which the muscle would normally contract upon and they balloon the musculature until its contractility is permanently destroyed.

Fifty successive case records show nine re-established bowel function without an enema or cathartic and 40 re-established normal bowel function by stimulating enemata of milk and molasses combined with administration of mineral oil. In twenty instances only, one milk and molasses enema was given, in 13 two were given, five patients required three, and one had six before normal bowel action was re-established. It seems that the general impression made on the nurse's mind is that if a patient's bowels do not move a soapsuds enema is in order without direction from the doctor in charge. Written direction for such procedure is just as essential as the order for diet or medication.

[At the last meeting of the Medical Society of Virginia, Dr. E. H. Terrell of Richmond said that the soapsuds enema supplied much of the practice of proctologists.—*Editor*.]

The Chronically Dilated Stomach Expressing Vitamin B Deficiency Caused By Yeasts

J. ARTHUR BUCHANAN, M.D., M.S. in Med., Brooklyn

Dilatation of the stomach is frequently encountered in the course of the general examination of patients. As the patient lies relaxed on the table, the condition is evidenced by splashing sounds in the epigastric region when sudden quick thrusts are repeatedly made in the gastric region with the tips of the fingers. The area of tympany in the left hypochondrium is greater than in the normal. In the normal, there is some splashing in some instances for a short time after eating, but the type of case of clinical importance is the one where the condition is present on repeated examinations three or more hours after eating. Some patients are conscious of these sounds with quick changes of position.

Case Histories

CASE 1.—A 67-year-old matron, always considered nervous. At 26 she vomited blood repeatedly, and passed large quantities of blood by rectum. The cause of this was not determined. In her 47th year she developed on the cervix an ulcer, which was cauterized. In the same year a nodule developed in the thyroid gland. In the 49th year the uterus was removed in order to eradicate a fibroid tumor. At 65 the present illness began with greater nervousness than usual, a sense of exhaustion and attacks of stomach distress. There were lesser symptoms between the attacks. In the attacks a fine red rash appeared over the nose and cheeks, the stomach was distended with gas, this followed by nausea and vomiting; she was dizzy and had films before the eyes. The attacks lasted all day, during which time the heart was rapid and irregular. Diarrhea was present for the next few days. In the interval she was bothered with bloating after meals, belching of gas, regurgitation of sour material and the formation of much gas in the colon. She had vague pains over the abdomen. In the mornings she felt nauseated, and had a lot of itching of the skin and pains in the back of the neck. At 47 the joints of the hands became involved, for which she took potassium iodide until a short time before she began to have the gastro-intestinal distress. In the early part of the trouble she felt exhausted all of the time and lost some weight, but just prior to the interview the exhaustion decreased and the weight increased.

She had found that the general distress was diminished by drinking large quantities of water.

The physical examination showed a blood pressure of 170/98, pulse 98, a small adenoma in the thyroid

isthmus, one large keratotic area over the umbilicus, deformity of the terminal joint of all fingers, a mass in the region of the uterus, acid saliva, dilated stomach with much splashing in the epigastrium on palpation and an area of tympany in the left hypochondrium greater than normal.

The routine urine examination was quite negative, the acidity was 26 per cent and the bichromate test 1.6,¹ the blood count normal and the two basal metabolic readings gave normal rates.

CASE 2.—A 26-year-old man, whose mother and maternal grandmother died from carcinoma of the stomach, and who had never been sick. About one year before he was first examined there began an almost constant feel feeling about the umbilicus, which was relieved by belching and by passing flatus. The condition was considered the expression of a dropped stomach. About two weeks prior to the examination by myself he began to have pain about 10 minutes after eating, lasting one-half to one hour, and lingering along until within half an hour of the next meal. This followed all meals and was relieved by milk of magnesia. If no pain was present, a glass of milk caused its return in 10 minutes. The bowels had been constipated for two years, and more so in the last year. For the last week he had been nauseated, and vomited a half hour after meals, the pain subsiding. For two months he had been too weak to go to work, and in that time he lost about 10 pounds. The stools were black during the three days previous to the examination. He had been afraid to eat for six months. The tongue had been coated for two years. At times he would have rapid heart action, associated with dizziness. During these seizures the epigastrium would distend and he felt that the stomach did not empty. He had felt nervous and uncertain of himself for the last few weeks.

The blood pressure was 116/70, epigastric palpation showed much splashing, the stomach markedly dilated, and an area of tenderness about two inches above the umbilicus. The test meal gave a return of 55 c.c. with a free H Cl of 39, and total acidity of 52, no blood, lactic acid present. The saliva was acid. The Roentgen examination showed a perforating type of ulcer on the lesser curvature.

Three years of careful dieting and care of the bowels elapsed before the splashing disappeared from the epigastrium. It was during the study of the yeasts cultured from the saliva, gastric contents and stools of this patient, that a reasonable explanation of the cause of gas in the stomach in some cases was developed.² The institution of a method of dieting based on cause and effect led to the rapid

disappearance of all symptoms and physical findings.

CASE 3.—A 38-year-old man, whose father and mother both died from carcinoma, one of chest wall, other of uterus. About 15 months before the first examination he began to have in the right side of the abdomen an indefinite type of pain, extending up toward the epigastrium. He began to feel bloated and generally uneasy in the abdomen. A belt relieved for a time, as the condition was considered to be due to a dropped stomach, then the trouble recurred. The bowels became constipated, much gas formed in the colon which he could hear rolling about but was unable to expel. After eating the epigastrium became distended, but he was unable to belch.

Examination showed a blood pressure of 120/70, a white coating of the tongue, acid saliva, a dilated stomach in which there was much splashing, an area of tympany in the left hypochondrium greater than normal, internal and external hemorrhoids, marked redness of the anal mucous membrane and a sigmoid filled with feces. The gastric analysis gave a return of 110 c.c. with a free H Cl of 20, and total acidity of 63, lactic acid present. The urine acidity was 44 per cent, and the bichromate test 1.

CASE 4.—A 48-year-old matron, whose mother had carcinoma of the bowel. The patient had never been sick except for abdominal distress. In 1926 the appendix and right ovary were removed to cure her troubles. For 15 years previously she had been suffering from bloating, belching and sour regurgitations after eating. There were recurring attacks of pains over the abdomen, chiefly in the right iliac fossa. She suffered from nervousness, dizziness, weakness, rapid heart action, and at times high blood pressure. She had large quantities of gas in the colon, was subject to crying spells, and was constantly doctoring. Following her operations she had more pain than ever in the abdomen, the gas formation was greater and there was more distention of the epigastrium. She tried various types of diets, and finally became so exhausted that she became bed-fast. She had lost 30 pounds in the last year.

Examination showed a blood pressure of 140/70, and the stomach dilated and filled with gas and liquids, so that there was much splashing in the epigastrium. The patient had had repeated test meals, therefore she was not subjected to the test again. The saliva was acid. The upper teeth had been removed. The urine showed an acidity of 32 per cent, the bichromate test 1.6.

CASE 5.—A 38-year-old man, whose father died of angina pectoris. He had had diphtheria, pneumonia, measles and influenza, was suspected of having tuberculosis 13 years previously, and had gonorrhea at 31. The bowels had been sluggish for 15 years, but there had not been much gas in the colon. Two years prior to my examination he began to have a bloating sensation in the epigastrium, extending over the cardiac area. The sensation started a few min-

utes after eating, and lasted for hours. He felt very short of breath when the attack was on, and during the interval coughed frequently. He had been dizzy and faint recently, these sensations coming on following a day of unusual stomach distress. In the morning there was little or no gas in the stomach, but as soon as breakfast was eaten the trouble began. The sweat, which was plentiful, had a bad odor. When the bowels did not move he had a severe headache, relieved shortly after defecation. The heart beat rapidly, and he was unable to bend over because of the distention in the epigastrium. For 15 years he had on the right side of the nasal septum an ulcer, which bled at times, healed and then recurred.

The blood pressure was 120/80. On the right side of the nasal septum there was a small ulcer, punched out, with thick crusts over the central portion. The ulcer was round, but on subsequent examinations the shape was found to vary. The epigastrium was much distended, and there was much gas in the left hypochondrium. The splashing was marked. The stomach was pumped, and 1,500 c.c. of material obtained. There was little splashing after this. The test meal gave a return of 100 c.c. with free H Cl of 30, and total acidity of 35. The saliva was acid. The urine acidity was 112 per cent, and the bichromate test positive—not done quantitatively. The roentgenogram of the stomach showed a complete occlusion of the pylorus at the time of the examination. At the next examination this had disappeared. There were no ulcers found, nor any type of abnormality in the stomach walls. The size of the stomach was much greater than usual.

CASE 6.—A 36-year-old man, who had pyorrhea in 1919, and all of whose teeth were removed for abscesses two years later. He was gassed in the army, had had hay fever for some years, he was jaundiced in 1916 and in bed six weeks. About eight years prior to my examination he began to have pains in the lower portion of the abdomen, associated with the formation of gas. (Teeth were removed to cure this.) For about the same length of time he had been having periodic trouble in the upper portion of the abdomen. He would have pain about one hour after eating, bloat and belch. He had pain between 2 and 4 a. m., had to stop drinking liquor because it induced vomiting. The bowels did not evacuate unless he took oil and cascara. He kept passing foul gas all day long. For all the years of trouble he had been having headaches; at such times he had films before the eyes and was dizzy. He had had recently severe pains in the legs and thighs. Four months before coming to see me he had stopped eating all animal flesh except chicken and fish. There was some improvement after doing this. He was annoyed by frequent urination.

Blood pressure was 120/70; there were areas of leucoplakia on both buccal mucous membranes; the cervical glands were all enlarged; the stomach was

markedly dilated, and there was much splashing on palpation.

The test meal showed a return of 20 c.c. with free H Cl of 60, and total acidity of 190. Lactic acid was strongly positive. The urine acidity was 48 per cent, and the bichromate test 1. The gastro-intestinal roentgenogram showed no ulcers.

CASE 7.—A 48-year-old man, who had never been sick, rarely took a drink, smoked one to two packs of cigarettes a day, and drank two cups of coffee. About three months before the primary interview he had precordial pain when going up a hill that he had traveled every day for years. The pain was at the tip of the sternum and was so severe that he was obliged to rest, deep pressing in character, with no radiation. In one attack after taking nitroglycerine he fainted.

Blood pressure was 158/98, pulse 66, heart of normal size with faint muscle sounds. The electrocardiogram showed a diphasic *T* in Lead 1, and left ventricular preponderance. The stomach was markedly dilated.

The routine urine analysis showed two small finely and coarsely granular casts per field, two plus of pus, two plus of red blood cells, acidity of 60 per cent, and a bichromate reaction of .7. The Wassermann blood serum reaction in this patient, as well as in all the others, was negative.

The culture of the saliva of all patients was positive for yeasts. The lesion on the nasal septum of patient whose case is numbered 5 was also positive. The gastric contents of all studied showed yeasts. The culture of the stools of all studied showed yeast colonies. All of the yeasts found fermented cane sugar rapidly with the production of gas and alcohols, along with unidentified substances.

DISCUSSION

This series of cases could be increased many times, if numbers of the same type had any particular significance. The association of the gastric dilatation with many gross physical disturbances of the heart, blood pressure, and kidneys would be brought out in such a study. The total number of cases presented furnishes an opportunity to call attention to the mechanism of many disturbances in the gastro-intestinal tract.

In the chronically dilated stomach the condition results from loss of muscle tone of the stomach wall in relation to the tone of the pyloric ring, or from an increase in the tone of the ring. There is a loss of relationship in the mechanism for emptying the stomach. The analysis of these cases and of many like them shows that the condition is not confined entirely to the stomach. The involvement is throughout the intestinal tract.

The physical status of the stomach presented in these cases has been demonstrated in animals on a diet deficient in vitamin *B*.³ It has been found that this deficiency could be corrected by feeding the animals dried yeasts. Yeasts contain vitamins which are as necessary for their existence as for other living organisms. It is logical to conclude that the substance known as vitamin *B*, which is a normal component of cells in the gastro-intestinal tract, has been destroyed, lessened, or altered in the cells of the patient showing the gastro-intestinal status associated with a chronically dilated stomach.

Yeasts occur everywhere in nature. There are many varieties. They are closely related to molds, which produce some of the same metabolites.

The yeasts found in patients, and those administered to patients as a result of the extensive advertising campaign in magazines and newspapers, are alive. They must obtain vitamins in order to live. They pass through the intestinal tract to a large extent without undergoing disintegration. Even if disintegration by autolysis or from other reasons occurred, their enzymes would not *ipso facto* be destroyed. Buchner showed that the enzymes must be heated to 50° C. (122° F.) in order to destroy completely their fermentative powers.

Yeasts obtain vitamin *B* from the foods ingested by the patient. The individual, therefore, is short of this necessary substance. In the intervals of digestion when there is no food present in the lumen of the intestinal tract, the organisms, by the production of various extractives, which they are quite capable of producing, take vitamin *B* from the cells of the gastro-intestinal tract. These cells must have this vitamin for their own existence. If they are deprived of it they undergo autolysis, and loss of the mucous membrane of the tract occurs. When loss exceeds regeneration, the lining of the canal is atrophic. The cells lining the intestinal tract secrete substances that are necessary or helpful to chemical processes occurring inside the body as well as in the tract. The individual is harmed in more than one direction. The cellular changes are best illustrated in the study of cutaneous lesions caused by yeasts. The change in the cells of the intes-

tinal tract by analogy must be the same or nearly the same.

Yeasts have also been shown to contain considerable quantities of vitamin *D*. They get this substance, which is so vital to themselves, from the same sources as vitamin *B*. The pot belly of the rachitic child demonstrates the same gas formation as shown in adults with yeast invasion. The constitutional disturbances vary with the factors present at different ages.

Whenever the quantity of vitamins in the diet is insufficient to satisfy the particular demands of the yeasts and the general requirements of the human being simultaneously, the human being begins to suffer as the yeasts, free living agents, have first choice. During periods of starvation the various so-called deficiency diseases do not arise.⁴ Yeasts are nearly inert in the absence of certain types of nutrition. The deficiency diseases are relative to other factors.

The yeasts rob the body of the vitamins—chemical substances so essential to its well being—and while doing so, by their faculty of producing alcoholic fermentation of certain sugars and amino-acids and by their action on fats, produce substances poisonous to the body cells, locally and generally. These substances lead to alteration in the muscular tone of the stomach and bowel. Years are required in most instances for this change to occur. Yeasts function best in an acid medium. The acidity of the stomach is never such as to inhibit the activity. Their activity is accelerated or inhibited by many chemical stances are produced by yeasts.⁵ The products produced by yeasts on carbohydrates are given in detail in a recent publication.⁶

COMMENT

Although yeasts have been found in the intestine of patients for many years the methods by which they produce harm have not been visualized. The problem is easier of analysis when their physiologic activities and nutritional requirements are recognized. Certain yeasts are known to contain large amounts of vitamin *B*, less of *D*, and other types contain, no doubt, more or less amounts of all of the vitamins necessary for human existence, as yeast cells are similar in their physiologic activities to those of the body.

The harmful effects of yeasts vary not only with the type of metabolic products indicative of the species, but with the predominance of specific vitamins in the yeasts, and these two properties may be interrelated. It is quite obvious that the opportunity for a multiplicity of lesions is presented. It is important to remember that yeasts contain a substance that is growth promoting to themselves as well as other types of independent cells. Yeasts in relation to bacteria, food, and water are important agencies which are constantly operative in the intestine of man under our present dietary arrangements. Because of vitamin robbing, foreign enzyme action—zymotic, lipolytic, and proteolytic—and chemical poisoning, they lead slowly either entirely or partly to the production of many gross physical changes which are found in the sick.

All of the patients presented in this paper, as well as a large number of similar types, have been treated by special dietetic methods.⁶ The results have been satisfactory in all instances where the patient has followed the regimen long enough to warrant a conclusion, and where the physical status of the patient was such that it was reasonable to believe that any good could be accomplished.

The chronically dilated stomach of the type considered is the product of chemical poisoning through yeast metabolites and of vitamin robbing by the same agencies. It is best treated by a dietetic regimen developed to compensate for cause and effect.

References

1. BUCHANAN, J. A.: Urine Tests for Some of the Products of Yeast Metabolism. *Southern Med. & Surg.*, Vol. XCI, p. 390, 1929.
2. BUCHANAN, J. A.: The Significance of Yeasts in the Stomach and Intestine. *Inter. Jour. of Med. & Surg.*, Vol. 43, pp. 14-17, 1930.
3. SHERMAN, HENRY C.: Chemistry of Food and Nutrition, p. 412. *Macmillan Company*, N. Y., 1928.
4. BENEDICT, F. G.: A Study of Prolonged Fasting, p. 11-416, *Carnegie Institute of Washington, D. C.*, 1915.
5. HARDEN, ARTHUR: Alcoholic Fermentation, pp. 1-157, *Longmans Green & Co.*, London, 1923.
6. FULMER, ELLIS I.: The Chemical Approach to Problems of Fermentation. *Industrial and Engineering Chemistry*, Vol. 22, No. 11, pp. 1148 to 1150.
7. BUCHANAN, J. A.: Dietetic Treatment of Lesions Due to Fungi. *Southern Med. & Surg.*, Vol. XCII, p. 166, 1930.

The Injection Method of Treating Hemorrhoids*

THOMAS BROCKMAN, M.D., Greer, S. C.

The radical operation for hemorrhoids until a few years ago was the only recognized method. Every other means seems to have had associated with it a certain degree of quackery. Especially was this so in regard to injection. Since the world war this method has steadily gained in popular favor, largely because of the opportunity afforded its advocates in treating soldiers in active warfare. I believe it was Authur S. Morley of London, who gained special favor with the British military chieftains by having treated thousands of soldiers by the injection method, thus keeping them on active duty in the front line.

Certainly we know the past few years have been productive of more genuine study and a clearer understanding of diseases of the rectum and colon and their relation to general health than has ever before been accomplished in an equal period. Heretofore, we have considered the infections of the lower bowel as chiefly local and treated them accordingly.

Ano-recto-colonic diseases can be roughly divided into three classes—the non-inflammatory, the infectious and the parasitical. The non-inflammatory type includes malformations, adhesions, benign tumors, all types of malposition, specific strictures, diverticulosis and malignant growths. Our understanding of the inflammatory type is not so clearly defined and is, in the main, still in the formative state as regards etiology, relation to other diseases and method of treatment. This group embraces all forms of colitis, sigmoiditis, proctitis and nearly all ano-rectal diseases including hemorrhoids, abscess, fissure, fistula, cryptitis and the great majority of pruritic cases. The exact status of hemorrhoids is yet uncertain; some contending that they are due to a congenital weakness in the terminal venous plexus. We feel certain that while this may be a predisposing factor, the actual cause is a low-grade infection in the overlying mucosa which destroys the connective tissue support, and allows the vessels to dis-

tend. We believe that most inflammatory rectal diseases are secondary to some infection about the teeth, or in the tonsils, posterior nares, accessory sinuses, gall-bladder or appendix. As a rule these inflammatory processes extend downward and not from below upward.

With these facts always in mind, a simple uncomplicated internal hemorrhoid can be injected with safety. The selection of the type of internal pile to be injected is the chief problem confronting the proctologist. We must remember that no injections are to be made less than one inch above the anal margin, and that patients with tight anal muscles are not suitable for injection, because of some pathology in the canal, such as infected crypts, etc. As a rule patients who complain of much pain following stool should not be injected. No forms of external pile tumors are ever to be injected.

A 5 per cent quinine and urea hydrochloride or an 8 per cent phenol, 2 per cent alcohol solution in almond oil or wesson oil, can be injected with safety into the base of the internal hemorrhoids in quantities ranging from 1 to 2 c.c. of quinine and urea, or 1 to 3 c.c. of the phenol solution on three quadrants. These injections are repeated daily in some patients for as many as three successive days, depending on the amount of associated prolapse. In others an interval of one week may be proper or more convenient to the patient. From four to 10 or 12 injections are given with an average of six.

The special field for this mode of treatment is large internal bleeding and protruding hemorrhoids uncomplicated by ulceration, erosions or thrombi, and complete prolapse of the rectum in adults and children of from two to 15 years. In treating procidentia recti in the very young, it is very necessary to call in the pediatrician to feed the infant. As a rule such patients have suffered from a prolonged summer diarrhea, or colitis. The injection of an egg-size prolapse in a two-year-

*Presented by Invitation to Marlboro County's (S. C.) Annual New Year's Meeting, Bennettsville, January, 1931.

old baby, one time on three quadrants corrected the condition. The buttocks are securely strapped to prevent extrusion of the prolapse in both children and adults. About 50 per cent of all rectal patients presenting themselves for examination are found to have internal hemorrhoids, and are treated after the manner just described.

Among the other 50 per cent we find patients presenting various types of complicated conditions, the majority of which require a surgical procedure to relieve, and this is always advised; but among these we find some who, for various reasons, either refuse operation or cannot be operated on. Most common among these cases are those with strangulated hemorrhoids, with marked swelling and edema of the surrounding tissues; infected hemorrhoids, with ulceration, or hypertrophied anal papillae; anal ulcers, and infected anal crypts. All of these conditions are accompanied by excessive pain and discomfort amounting to emergencies, and we find that relief can be given, and in some instances the patient apparently gets well, from the infiltration of the nupercaine in castor oil mixture into the perianal structures, and in some cases into the inflamed, swollen hemorrhoidal tumors. This procedure affords a complete relaxation of the sphincter muscles and anesthetizes the inflamed painful parts, results much to be desired. The nupercaine has the happy faculty of partially anesthetizing these parts for from three to seven days. The sphincter muscles and surrounding structures remain soft and relaxed. Healing is rapid and painless. The patient is removed from a very distressing situation to one of relaxation and comfort.

The mixture (sterile) consists of .5 per cent nupercaine, 1 per cent phenol and castor oil q.s. The patient is prepared as for surgical operation under local anesthesia. The parts are cleansed and painted with 3.5 per cent tincture of iodine, or a 0.5 per cent picric acid solution. With the patient in left Sims or lithotomy position, and with a small hypodermic needle from 1 to 3 c.c. of a 1-1000 solution of nupercaine is injected into the skin at a point about one inch posteriorly in median line. Then a 16 gauge needle 3 to 3½ inches long is introduced posteriorly and passed under the subcutaneous structures on

along the left side of the anus, extending to the anterior raphé. From 10 to 20 c.c. is injected; the needle is withdrawn but not through the integument, and the same procedure carried out on right side. The injections are given exactly as done by many of you when infiltrating the rectal tissues preparatory to local hemorrhoidectomy. The patient is put to bed and given vigorous hammering, pounding massage under an infra-red, or a heat lamp. Occasionally ⅛ to ¼ gr. morphine is required, but it is the exception. The patient is advised to remain in the clinic for several hours and to report daily for vigorous massage to prevent pooling of the oil. We would like to leave the impression that the proctologists do not confine themselves strictly to the treatment of the various phases of disease as found in the ano-rectal canal, because these diseases are not strictly local, since their etiology and promulgation are the result of some derangement of function, or foci of infection, in other organs of the body.

Patients with strangulated hemorrhoids in the early stage are treated in this manner and placed in the hospital for a period of from three days to a week. The milder forms of ulcerated internal hemorrhoids are done likewise.

We do a routine physical and laboratory examination on every patient who comes to us for treatment. The history of the case very often affords valuable information in regard to whether the patient is a suitable one for either form of injection. Likewise the laboratory examination is invaluable, and usually includes gum and throat smears, white, red and differential blood and Wassermann, urine, gastric contents and stool examinations. The gum smear and gastric analysis have given us most help with cases of hemorrhoids. It is not uncommon to find Vincent's infection of the gums in patients who give a history of daily bleeding at stool. In patients with acute strangulation a marked oral sepsis is often reported from the laboratory. A large percentage of patients suffering from the various forms of rectal disease will show a deficiency of free HCl in the stomach. Just as many or more will give a history of indigestion, constipation, toxic headaches, passing of mucus, etc. In fact we see very few patients suffering from rectal symptoms

alone. We do not regard any patient coming to us with rectal disease as having a local condition alone.

Likewise the treatment required in these cases includes general measures as well as local treatment, especially in the intestinal cases. We find that the majority of these patients do better on a bland, non-roughage diet and without purgation. Bran, roughage and purgatives bring more patients to the proctologist than any other things we know of in such general use.

CONCLUSIONS

1. The proctologist must examine his patient thoroughly.

2. Second and third degree hemorrhoids should be injected at from one- to three-days intervals.

3. The castor oil-nupercaine injections are valuable in treating the painful rectal conditions so often seen, which, for various reasons, can not be operated on.

4. A smooth soft diet should be prescribed for those with the more acute, inflammatory hemorrhoids, especially for those losing blood. Bran, roughage and drastic purgatives must be prohibited in all forms of inflammatory colon and rectal diseases. (I see numerous patients suffering from an anal ulcer or inflamed anal crypt, who have given a history of excessive bran eating.)

5. A normal salt enema is much to be preferred to the mildest laxatives. Any form of laxative is a poor substitute for an enema when dealing with infections above that will irritate as they descend the alimentary tract.

6. Rectal and anal ulcerations, thrombi, polypi, hypertrophied anal papillae, etc., found inside and above the pectinate line, are evidences of complications; and hemorrhoids found to be associated with such conditions are not to be given the injection method of treatment. These conditions require a radical surgical operation by Hirschman's ligature or clamp-cautery operation.

References

- HANES, GRANVILLE S., Louisville, Ky.
 PRUITT, M. S., *Southern Medical Journal*.
 APPLEHAUS, WM. E., *Kentucky State Journal*.
 TERRELL, E. H., *American Proctologic Transactions*.

I do not know what that ancient phrase "thready pulse" means. It is still a popular term. But I never felt any pulse that felt at all like a thread.—R. C. CABOT, in *New England Jour. of Med.*

DIAGNOSIS AND TREATMENT OF ADDISON'S DISEASE (Rogoff, J. M., in *Canadian Med. Asso. Jour.*, Jan., 1931)

The characteristic symptoms of the syndrome as described by Addison are "anemia, general languor and debility, remarkable feebleness of the heart's action, irritability of the stomach, and a peculiar change of colour in the skin."

My treatment consists in the administration by mouth of "Interrenalin," an extract of the interrenal tissue, or cortical portion, of sheep or beef adrenals. In addition to the administration of interrenalin I employ intravenous injections of relatively large amounts of physiological salt solution, or Ringer's solution, to which is usually added about 2 to 6 per cent of dextrose. These injections are employed when a patient manifests the development of intoxication, or during an acute exacerbation. The value of such injections was demonstrated in the prolongation of life and amelioration of symptoms in our adrenalectomized dogs. A number of cases of Addison's disease have been treated with interrenalin alone, and others with the intravenous injections alone. The intravenous injections have been found to be only of temporary benefit and are very useful during an acute exacerbation or in the beginning of treatment of a case to facilitate elimination of accumulated toxins. Interrenalin gives much more lasting benefit and when employed without the intravenous injections has yielded much more satisfactory results than when the injections alone were given.

In eight cases, in which the diagnosis of Addison's disease can not be doubted, that are at the present time under my treatment, the duration of the disease since the onset of symptoms has been respectively as follows: 1¾ years, 2 years, 2½ years, 3½ years, 3¾ years, 6 years, 3 years, 1 year. Not only is life being prolonged in these cases of Addison's disease, but the symptoms in most cases are decidedly ameliorated. In some there has been considerable reduction of pigmentation of the skin. I have found that the disease is apparently much more rapidly fatal in blondes than in brunettes.

THE ELECTROCARDIOGRAM

(Editorial, *The Lancet*, (London) Oct. 4th, 1930.)

Graphic records of the electrical phenomena accompanying the heart-beat were obtained by Waller in 1887, using the capillary electrometer, but it was not until some 16 years later that the invention of the string galvanometer by Einthoven made such records available for clinical purposes. Einthoven's galvanometer is not, as might be supposed, an extraordinarily sensitive instrument; more sensitive galvanometers are used for other purposes. The peculiar feature which renders it suitable for this particular type of work is its rapidity of movement. Instead of swinging slowly back to its base line it returns to zero remarkably quickly, and is therefore capable of recording a series of rapid changes of potential which a more slowly moving galvanometer would be incapable of following.

Drainage in Appendicitis*

ALBERT D. PARROTT, M.D., F.A.C.S., Kinston, N. C.
Chief Surgeon, Parrott Hospital

I consider drainage to be of importance secondary only to time of operation itself. There are no iron-clad rules one can lay down; each case is a law unto itself and must be regarded as such, and treated accordingly. There are, however, some general or approximate principals that we may apply to this all-important subject. Once while attending clinics in New York City I saw that distinguished surgeon, Dr. Robert Morris, operate on a patient who had perforative appendicitis which was causing a general peritonitis. He removed the remaining fragments of appendix, wiped the peritoneum as dry as possible, and sewed this patient up tight, providing no means of external drainage whatsoever. I gasped and said, "Doctor do you mean you are not going to provide any means of drainage in this case?" He replied that nature had already made that provision *via* the peritoneum, and that this was "physiological surgery doctor, physiological surgery." I was in New York the two weeks following and took occasion to follow up this case, and found that this patient made an uneventful recovery.

I decided when I returned home that if Robert Morris could make a practice of doing this so-called physiological surgery, I might be permitted to do it at least once or twice, and so I did. The first was a white girl sixteen years of age, the second a colored boy eight years of age. They each had a perforated, gangrenous appendix. In each I removed the remains of what appendix was left, mopped the peritoneum as dry as possible with gauze, and sewed both up perfectly tight. They both made good recoveries in the usual time, with no complications.

I promised if they both got well I would never do such a foolhardy thing again. I consider the nondrainage as done above, fraught with great danger, and that the practice can lead only to trouble; because I have known patients to die when there was only

the slightest indication for drainage, and they were drained. The virulency of the infecting organism, coupled maybe with mild organism, and the perforation be caused by a kink in the appendix or a band cutting off circulation. Therefore the gross pathology is frequently out of proportion to the infecting organism.

The rule I usually follow is to drain every case where I can detect the slightest putrid odor, clear on through all intermediate stages of pathology to gangrene and perforation. In other words the mildest condition which I would consider as an indication for drainage would be a rather dark or specked appendix with slightly foul odor, and the other extreme would be gangrene and perforation, and of course I would drain everything between these two extremes. I use the time-honored cigarette drain, believing it is best suited for this condition. I do not like the glass, the split rubber, or the rubber tubular drain for abdominal drainage. If the appendix is hanging low over the ilio-pectineal line I put a drain low in the most dependent part of pelvis, on the other hand, if it is higher in the flank it is there I place it. I take great pains never to allow the ends to rest upon intestine, nor to make any more pressure against the intestines than is absolutely unavoidable. I elevate the tube a little every day, and about the fourth day remove it entirely.

Formerly I followed the removal of the tube with insertion of a small gauze wick, but I have about abandoned this, believing it to be unnecessary. The place where the tube was placed will form a perfect chimney or sinus, and all fluids that accumulate following the tube's removal will find easy outlet. It is surprising how quickly a wound of this character will cease drainage when the tube is removed. I believe that 72 hours is about as long as a tube should remain. Of course there might be exceptional cases.

*Presented to the Lenoir County (N. C.) Medical Society Meeting at Kinston, June, 1930.

What I Teach My Students*

KENNON DUNHAM, M.D., Cincinnati

Director Tuberculosis Service, Medical Department, University of Cincinnati

The Tri-State Medical Society at Memphis in 1929 kindly listened to what I teach my patients under the title "Some Points in Home Treatment of Pulmonary Tuberculosis." Part of that address I must repeat because this subject is brought to our students.

North Carolina is and has been a leader in the fight against tuberculosis. When stationed at Oteen during the war I made great effort to develop a school to teach the subject of tuberculosis in Asheville. It has always seemed to me that your great leaders should also be great teachers.

It would express conceit to expect to interest this Society in the treatment of tuberculosis. I do expect and hope to interest you in how to teach. And I crave your criticism of our methods of teaching and our approach to chest examination.

The Medical Department of the University of Cincinnati was christened a school of clinical medicine by Dr. William H. Welch, just as he christened Tulane a school of tropical medicine. It is the dream of our faculty to turn out practicing physicians. To that end we have students handle and examine patients as much as possible, we cut down didactic lectures, grade high percents for reading and individual initiative, and, above all, try to build character. Character can not be built upon messy work. Every effort is made to discourage too early specialization and to encourage a broad understanding of medicine. The fundamental sciences upon which the art of medicine must stand are thoroughly taught, but it is always kept in mind that we are making practicing doctors and not scientists in chemistry, biochemistry, bacteriology, pharmacology, cytology, nor even physiology, anatomy, pathology nor embryology.

After the full four years are finished these and other scientific subjects can be taken up, as can special studies in tuberculosis and other clinical subjects. A sound preparation is all important.

While the students are studying anatomy and pathology they are instructed in physical examination so that they may see how anatomy produces physical signs and how pathology may change them. Through the first and second years and the first half of the third year they are grounded in physical examinations. In the third year they go to the bedside, and the second half of the third year they come to the Tuberculosis Sanatorium. Here they spend one morning every week during their second semester. It is of this work that I will speak especially a little later. During the fourth year they take this preparation, as well as other clinical and laboratory training, to the clinic. If they stay in clinical medicine they have the opportunity of spending two months in the Sanatorium in their fifth year.

Many men have neglected a study of tuberculosis because there has been no evident career open to them. Here is our first point of attack,—interest is the first step in teaching. Show the student that there is no specialty which is not meeting tuberculosis daily. If your student believes and understands this truth he will see that he can not practice medicine unless he masters or has at his disposal a master of chest diseases and an understanding of tuberculosis. When he fully realizes that thousands of lives are sacrificed every year because cases of pulmonary tuberculosis were not diagnosed early and properly and prolonged care was not administered; he wants to learn. He is just as anxious to learn about chests as he was to understand obstetrics and surgery.

This interest is inculcated in the second semester of the third year. It is proven in the hospitals and clinics the fourth year. And, as internes, the fifth year they learn how little they know and start all over again.

After the fifth year we have several positions open on our Junior Medical Staff which pay \$1,800.00, and these are eagerly sought

*Presented by Invitation to the Guilford County (N. C.) Medical Society, meeting at High Point, February 5th, 1931.

because the men filling these positions learn chest mastery, and chest mastery, learned in a sanatorium, prepares men for Public Health, General Practice, Hospital Superintendency, and improves men for every specialty in medicine.

The Hamilton County Tuberculosis Sanatorium is being constructed as a one- and two-room institution for all persons in this county having pulmonary tuberculosis, regardless of financial status. There is one unique feature of the medical service,—our x-ray clinics. All new cases are cleared through this clinic and the progress of each case is watched in this clinic. The procedure is as follows,—the cases are prepared, histories, physical examination, laboratory reports, with diagnosis and prognosis. Each case is complete. I take the x-ray plates with only the knowledge of age and color. From these stereoscopic chest plates I read what I know, call attention to densities which I cannot interpret and a general discussion follows. Thus I teach my staff; learn from my staff; and get a bird's-eye view of our four hundred patients. Above all, I know my staff and my staff knows me. Many of these carefully prepared cases come to most searching autopsy and here again we learn, because we have not always been correct.

These cases, from the x-ray reading, fall into three classes:

(1) Pulmonary tuberculosis.

(2) Lesion not diagnosed, but carcinoma, sarcoma, benign tumor, diabetes, syphilis, pneumoconiosis, abscess or basal tuberculosis suspected.

(3) Negative chest plates.

This last must not be construed to mean a negative chest. It may be a severe case of bronchiectasis, bronchitis, heart lesion or even emphysema and asthma. In about one case in five hundred we may have tuberculosis without the chest plate showing it. Bronchiectasis may or may not give x-ray findings. Lung flukes and even hookworm may not show on the plates, nor streptothrix.

Only too often clinicians have condemned the x-ray because there was a negative report and a serious pulmonary infection. You can see that this is a mistake. The clinician should know that a negative x-ray report only indicates no pathology which produces abnormal density.

There is another point discussed by clinicians. The x-ray should never make a clinical diagnosis, read activity, nor suggest a prognosis. The x-ray should stay in its place. The reader of x-ray plates must not be misleading. It is a laboratory measure and, like all other laboratory measures, should be used not to make a diagnosis but to confirm a diagnosis. Therefore, the x-ray diagnosis must not be final. Like all other laboratory findings, it must be interpreted by a physician who sees the patient. The radiologist should more often see the patient. He will learn and the doctor in charge will learn and the patient will benefit.

If you will come to my clinic, you will hear such readings as this: Pulmonary tuberculosis, active, far advanced adult apical type, complicated by cavities in both uppers, extensive caseous bronchopneumonia in lower right, extensive fibroid pleurisy on right and emphysema at the left base. Viscera dislocated to the right. Tubercle bacilli will be found in the sputum, patient can not recover, expectancy less than three months. If this is all that there is to be with regard to the diagnosis, it is a mistake. But if, as it is in our clinic, it is a challenge for the young men to prove that their chief is wrong, then it is good. It stimulates interest and all learn.

Let each man say all that he dares, provided his report is going to receive close scrutiny. If such a reading is correct, there should be dullness at the right base. The point of maximum impulse must be to the right. The left base should be resonant and definite adventitious sounds would be expected at the apices. The sputum will be positive. The students are taught to find these and to prove or disprove positive sputum. If the ward surgeon has not such findings in his history, there is something wrong and the patient is brought to the clinic. Thus, the director knows his staff, the staff knows the director and the student is taught.

You can see how such a system not only gives us our initial diagnosis but in more favorable cases how we can and do watch the progress of the disease. In this way we determine when pneumothorax, thoracoplasty or section of the phrenic are required. It is safe and often necessary to attempt pneumothorax in the most toxic cases. If pneumothorax fails section the phrenic—but it is

never safe to attempt thoracoplasty until after the patient has ceased to be toxic. It is sometimes necessary but always hazardous. I never advise thoracoplasty in a case of pulmonary tuberculosis unless the sputum remains positive. And I do not like to let a patient up with positive sputum if a thoracoplasty is possible. The reason is this: aspiration tuberculosis usually develops.

To give you an insight into our hospital I have gotten away from the third year student. He is shown the x-ray examination of the patients, but most of his time in the x-ray room is taken up with the normal x-ray plate. Here he learns to see stereoscopically. This is all important. Many men believe that they are studying a chest stereoscopically because they have stereoscopic films. Often they will see just as well when the plates are improperly placed. The student must learn to know when the plates are in the wrong position by looking at them in the stereoscope. If he can not tell this, he has no benefit from the double exposure. When he has learned to see he is trained to examine the axillary folds to determine the nourishment of the patient, then to see all the bones, then the trachea, the right and left bronchi, the arch of the aorta, the right and left pulmonary arteries, the right passing under the right bronchus and the left over the left bronchus below the aorta. He then makes out the main stem bronchus just inside the right and left pulmonary arteries. The heart is described and the right and left diaphragm carefully noted. The hilum densities are again examined to note nodes, calcification and enlargement. The pleura is noted and, finally, the right and left lung fields with their various trunks and linear markings. When he has been able to make out the lobes from these lung markings he is ready to observe and locate abnormal densities.

Just as a knowledge of the normal chest is the keynote to detecting abnormal physical signs, so is a knowledge of the normal x-ray plate, with its infinite variations, essential to reading pathology. Now the student is given his x-ray classification of pulmonary tuberculosis. The variations of the normal chest and the types of tuberculosis densities will prepare anyone for reading x-ray chest plates if the doctor understands the nature and pathology of other pulmonary involvement.

He is taught miliary tuberculosis and that the tubercle develops in the lymphoid tissue. He is shown early apical tuberculosis and taught that the tubercle starts, just as the miliary tubercle starts, in the lymphoid tissue, but that the apical type is usually limited to the upper lobes and that the tubercle is not usually seen because it is obscured by the exudate which produces areas of lobular pneumonia. He then learns that miliary tuberculosis does not produce exudate sufficient to flood these areas when comparatively few tubercles exist, and is asked why this exudate occurs in the adult type. Not understanding this he is glad to learn again and he will now remember that the reaction of the body to the tubercle bacillus is different in the animal which has been sensitized by having had these germs in the body over a long time, from those animals which are not sensitized. He now remembers that Koch showed this in the eighties.

It is very hard for him to understand why Dunham called the lobular pneumonia "x-ray fans" when lobular pneumonia is so much easier understood. He can hardly believe that as late as 1915 the pathology of these fans was not understood. It is very difficult to have him understand that the great mass of densities found in upper lobes is made up of conglomerate fans drawn out of shape by fibrous tissue, which is unusually contractile. But when the lungs, which have been saved in alcohol, are cut, he is convinced and is quite surprised to find the areas of emphysema which lie between these contracted fans.

Now he reviews his pathology and sees repair and degeneration developing side by side in the same lung. He sees the mottled, caseous, bronchopneumonia in the lower lobes and can understand how such changes are borne by aspiration and why they have the distribution of bronchopneumonia.

He has now the picture of early and advanced pulmonary tuberculosis and can compare it with the miliary, but we hand him a third picture which is baffling. It is a massive type of caseation, associated with large masses of tubercle bacilli, surrounded by caseation. It shows upon the plate as pneumonia or bronchopneumonia, but there are no cavities from which the germs may come to be aspirated. He finds cavities in the lung, but he sees from the former plates that these cavi-

ties developed late in the disease. He found that Koch's early experiments had been forgotten when he tried to explain the difference between miliary and apical tuberculosis. He tries again to remember. He fails. Again he is surprised when we tell him that no one understands. Such lesions must be due to massive infection. Whether from without or from within the system is not known. Such lesions are common in children and Negroes, but are found also in white adults. They are associated with large caseous lymph nodes. They develop in upper lobes as well as in lower lobes. To hold the old name they are called basal lesions. He is bewildered and so are we. We go further and explain that the pathological anatomy of such lesions has never been worked out. This is a problem for the future—his problem, and he is interested.

Again we catch his interest. We impress him with the importance in history taking and in careful general examination. If such lesions are due to massive infection from without, then there should be some history of contact with positive sputum. If from within, then he should make every possible effort to find that tuberculous lesion from which the lung was infected. You would be surprised to know how many cases can be cleared up in this way. Yet some come to autopsy with no answer.

I said that a knowledge of the variations of the physical signs of the normal chest is essential. These men when they come to their second semester of their third year are well prepared, but we would not turn patients over to them to thump and exhaust, without reviewing the normal chest. No one ever got enough experience with the normal chest.

The sixty-odd students are divided into groups of four each. Each group has one patient and one instructor. I believe that my most valuable teaching is with these groups.

Each student, male and female, strips to the waist. They examine each other. They are instructed to mark the apex beat, to palpate the trachea and to mark the diaphragmatic dullness on forced inspiration and forced expiration. They learn from each other that the point of maximum impulse is not always easy to find. That an opinion of the position of the trachea when only slightly out

of line may be misleading. And above all, they learn that a study of the movable diaphragmatic dullness is the best way to study percussion. They are surprised how high these young men and women can raise the diaphragmatic dullness by expiration, and how low it can be drawn by forced inspiration. They learn to close their eyes and with ears plugged to percuss accurately by the sense of touch alone. They learn that in one lesson, but skill comes only after many trials. This they test by having the man examined inhale or exhale without the examiner knowing when, and learn to tell whether the chest is in inspiration or expiration.

When they have shown skill, they are given a patient. The patient may have pleural effusion, fibroid pleurisy with dislocation of the viscera or an enlarged heart. Often a patient with emphysema is presented. Here the student learns how pathology may be decided from physical signs.

The case with pleural effusion shows dullness, let us say, at the left base. He finds that it does not move on inspiration and expiration. The point of maximum impulse is to the left. The heart dullness is enlarged to the right. There is hyperresonance above the dullness and sometimes he detects the triangular dullness to the right of the spine. How he wants to use a stethoscope. He is sure that if he could listen he would be able to make his diagnosis. He is asked to note the trachea. He is not sure but thinks that it is to the right. Seldom has he made his diagnosis. Take him to the blackboard—draw the outline of the chest, mark the trachea to the right, place the point of maximum impulse as he has done on the patient to the right, draw the heart at the right and mark the dullness. It is very seldom that he will not arrive at the correct conclusion—that something is pushing the viscera away from the left side. He concludes pleural effusion and then he sees—what he had failed to detect before—Hoover's sign, fixation of the costal margin on the left. He is delighted, and when he gets the case with fibrous pleurisy with the dullness at the left base, trachea to the left and point of maximum impulse to the left with no heart dullness to the right of the sternum, he arrives at the correct conclusions. Now he may have these two cases to examine with the stethoscope. He is very

much surprised to find that the auscultatory findings are not as he had read in the book. Our student is becoming interested to observe for himself.

When he comes to the patient with a heart greatly enlarged to the left, causing dullness in the left axilla, he has marked the point of maximum impulse, he has touched the trachea, he has percussed the diaphragm dullness on forced inspiration and expiration. He has run his percussion anteriorly. He palpates the heart and feels the pulse. He has made his diagnosis without help and has not used the stethoscope until the end of the examination.

By the time each student has developed this much ability to palpate and percuss he is ready to appreciate the importance of perispinal dullness, the detection of the rhomboids and trapezium dullness and to mark Koenig's isthmus. Then the percussion of the anterior part of the chest is as nothing. Also he has become keenly alive to inspection. Emphysema can be presented and then we take him to pneumothorax, with low flat diaphragm which does not move and hydro-pneumothorax with movable dullness. The early hours which had forced him to master percussion and palpation without sound, have given him his assurance.

Auscultation I shall not dwell upon long because that was so very well taught at Oglethorpe during the war. Our students are carefully grounded in auscultation, the length of inspiration and expiration, and how the length of inspiration is constant and expiration varies, over the head, the trachea and various parts of the chest. One phase of auscultation is most important in teaching:—the vesicular breath sounds over the apices. In many healthy chests the breath sounds are barely audible. Again there is a very prolonged expiratory rumble and in other healthy chests there is a very definite prolongation of the expiratory sound which is high in pitch. The student will take you to such a subject believing that he has found tuberculosis. You listen, ask the subject to breathe quietly with his mouth open. The high-pitched expiratory sound disappears, and the class is much impressed when you diagnose nasal obstruction. Further, they are much more interested when you show them how

they can deduce the same. This sign is almost infallible and is of importance when examining a patient in the office.

If the student can be taught to listen to the five properties of sound every time he places the bell of a stethoscope on a chest and can be trained to record what he hears, he will have begun to master auscultation. Pitch, intensity, time or duration, quality or timber and rhythm on inspiration and expiration can be easily and quickly recorded. Unless the student does record you have no chance to correct.

Inspection is acquired by the student while he palpates, percusses and auscultates, and he then sees why the apices are depressed, the scapula winged and the bases not expanded—the scapulae winged and the bases not expanded. Thus I try to make him his own master.

The Trudeau School at Saranac has taught many great truths but none more important than the simplification of rales. More than eighty kinds of rales are described in the medical literature. Trudeau has reduced them all to fine, medium and coarse and these cover the ground.

All rales and all sputum findings are important but they do not always indicate active tuberculosis, nor even tuberculosis. Dr. Minor, of Asheville, has maintained more than once that rales may, and often do, exist long after arrest, but it is important for students to learn that they must prove rales as unimportant before they neglect them. The cracked-pot sound, cavernous breathing, amphoric whisper, consonating rales are all shown to students, but the bronchophony of the spoken voice is most important.

Dr. McClellan, of our hospital, has made a most careful study of physical signs over cavity. Dullness and positive sputum are the most common findings, but neither locates the cavity. Localized coarse rales are the most reliable signs which will locate the cavity. Amphoric whisper and cavernous breathing are well down the line and cracked-pot sound is found in about one out of one hundred cavities.

We try and impress our students with what you all know: that rales over a localized area, increased after cough, is the most important single physical sign of pulmonary tuberculo-

sis. But this sign must be proven by positive sputum or by x-ray, because it is often quite typical over an upper lobe even at an apex, from other causes.

I would not have you think that we try to cover the whole subject of tuberculosis and certainly not chest diseases. We do review gross and microscopical anatomy of the chest, the pathology of tuberculosis and other diseases affecting tuberculosis, and laryngeal tuberculosis. But ocular tuberculosis and so-called surgical tuberculosis are covered in other courses and bacteriology covers avian tuberculosis and many variations of the acid-fast bacillus. We lay stress upon laboratory studies and especially laboratory research in tuberculosis, but the latter is from didactic lectures in the third year.

Home care and prevention of tuberculosis receive great consideration and these I am anxious to emphasize here. Prevention is best served by separating children and young adults from positive sputum. You can have no tuberculosis without tubercle bacilli. This may not be in the patient's sputum, but if the patient has tuberculosis he has tubercle bacilli, and further, he got it most probably from positive sputum or milk. You can easily, as has been done in many places, clean up the milk by pasteurization. It is quite a different matter to pass laws to control parents and their children. This is the doctor's business.

We hear a lot about the dangers of State medicine. May God and the doctor protect us from State medicine. But there is only one protection and that is State health. Health is more important to a state than education. The people are searching for health. Searching blindly, and I fear that they will find the wrong way. We doctors can save them and ourselves. Let us go out for State health. There is no better way than to pasteurize milk and to separate young adults and children from positive sputum. If we who go into the homes and who lead our people would consecrate ourselves to separate all children and young adults from positive sputum, the other people would pasteurize the milk.

It is of first importance that we examine the sputum. All sputum is dangerous. Sputum comes from either the upper or lower air passages. Sinus infection requires our atten-

tion and sputum from the lower air passages requires our investigation. First, let us send to the Health Department all sputum—then let us demand that an adequate report of that sputum be made. Does the sputum contain tubercle bacilli? What organism does it contain? Does it contain pus? Especially does it contain dust cells or elastic tissue fibers? Pus and mucus may come from the upper air passages but elastic tissue fibers and dust cells must come from the lower air passages. If from the lower air passages and, after repeated examinations no tubercle bacilli are found, then we have chronic bronchitis or bronchiectasis. We doctors want these reports for the benefit of our patients. How many patients have been lulled into a sense of false security by "sputum negative." Possibly there was a serious non-tuberculous infection and possibly the sputum was positive and the bacilli not found. If we doctors would have all sputum completely and repeatedly examined and act upon the result, we would do more to avoid State medicine than by any other single measure which we could undertake.

But to find positive sputum is not enough. We must find a way to separate even the tuberculous mother from her child. X-ray studies and tuberculin tests of school children are a waste of time and money except as research and propaganda. They will not avoid State medicine. I tell you that a careful examination of sputum, and then action, will avoid State medicine. Thus I teach my students.

Home treatment of tuberculosis. There are two classes which can not be treated in their homes. The very poor. They can not pay the price. Again, the very rich. Those who employ servants. Servants can not convert a home into a hospital and, unless you can convert a home into a hospital, do not try to treat tuberculosis in that home.

Many of my respected friends, excellent doctors, are drifting with their patients and a prescription. You can not drift with a tuberculous patient. You must command. Drugs will not do. Fool yourselves and your patient with drugs and the patient will die. You will lose a friend and State medicine is one step nearer.

Face the issue—either you can help or you will not assume responsibility. Treat that

case as you know how or get out. Such an attitude on the part of every good doctor will revolutionize the attitude of any community toward tuberculosis, both for those suffering and those exposed. Those suffering will get the required rest and the young will be separated from positive sputum.

On the other hand, temporize and argue, and as a profession we are lost. Many of the Labor unions have stamped out tuberculosis in their organizations. Labor unions contain the men working and fighting for State medicine. Why? They want health and we do not get it for them. They separate seed and soil and we doctors do not. Hire doctors who are not afraid of their patients. I have heard their doctrine many times. I have watched State Medical Societies pass foolish resolutions aimed at the protection of doctors. Such tactics will fail. I beg of you young men to go out and fearlessly work for State Health. The reward will be great. And you will put off the curse of State medicine. Nothing you can do will be more effective than finding positive sputum and separating children and young adults from the sure infection.

Having made the fight the patient is yours or you are no longer responsible. If the patient is yours you must go to work. Rest is your only hope. Absolute and complete bed rest. Someone bathes the patient and brings her food. The windows are open. The children are no longer the care of the patient. Quiet reigns. Having made the big fight—separating positive sputum from the young—you see your patient getting better: she loses toxicity, the fever drops, the pulse quiets a little, the appetite improves, the general appearance is better. You get more cold air into the room.

But the sputum remains positive. Regardless of the physical signs you require an x-ray examination. There is a cavity. You suspected it because of the sputum, but there were few physical signs, only coarse rales over a localized area. Now you need help. Pneumothorax or section of the phrenic, but to decide you must have an x-ray. There is none. You are defeated. Possibly in this case yes; but when you know what you need, and the doctors in your neighborhood know what you need, you will get it. And here is

the only place that State medicine should ever come in. The patient should have the care of his good friend the doctor. The friend is very important. The State can never send a friend to any patient. The State can send assistance to any doctor if he has training and acumen enough to use it.

Thus county hospitals are necessary for those who can not provide for home care, and preventoria, or billets in private homes, for those needing separation from infection. The private sanatorium is necessary for those who have servants. But home treatment is necessary for the self-respecting middle class who do their own work and can convert the home into a hospital.

The doctor is responsible for the patient but, above all, for the honor of his profession. The doctor can only fulfill his responsibility to his patient, to his profession and to his State when he knows what must be done and fearlessly carries it to proper completion. Are these responsibilities hard to understand? No. Separate all under twenty from patients with positive sputum. Absolute bed rest for those who have toxic tuberculosis. Never let a patient out of bed with positive sputum. Call a specialist or send the patient to a sanatorium when clinically the patient appears non-toxic and sputum is positive. Fight if the state, county or community does not give the doctor the necessary help to carry out these instructions.

Thus I teach my students, and I pray that the characters that we have tried to develop in them will add a fighting unit to the forces so that we may stamp out tuberculosis and the need for State medicine.

THE INFECTION OF SURGICAL WOUNDS WITH DIPHtheria BACILLI

A positive diagnosis of *B. diphtheriae* infection of wounds can not be made with certainty from a direct smear. The virulence of a strain of *B. diphtheriae* isolated from infected surgical wounds can only be determined by a virulence test. Any wound that is suggestive of infection with *B. diphtheriae* should be treated by the administration of antitoxin, and given a complete bacteriological examination. Infection of surgical wounds by *B. diphtheriae* does occur, but is very rare in civil life and not so common as it was once thought to be in military hospitals.

Resection of the Right Half of the Colon for Hyperplastic Tuberculosis*

JAMES W. GIBBON, M.D., Charlotte, N. C.

Probably all of the most severe cases of pulmonary tuberculosis present some degree of intestinal involvement. Fenwick and Dodd found lesions in the intestinal tract in from 70 to 90 per cent of patients dying with pulmonary tuberculosis. It is noteworthy that these lesions are usually of the ulcerative variety, and in only 25 per cent of them does stenosis or stricture develop. About 85 per cent of the involvement in intestinal tuberculosis is in the terminal ileum, cecum and proximal, or right, colon. Fifty per cent of the patients with tuberculous peritonitis have intestinal tuberculosis also and 20 per cent of the patients having intestinal tuberculosis have peritoneal involvement as well.

The type of lesion in intestinal tuberculosis varies. In some instances, it is predominantly ulcerative and progressive, and is indicated by severe diarrhea and the passage of blood. This is the type of lesion usually associated with well advanced pulmonary tuberculosis, and is therefore appropriately referred to as secondary. A second and widely different type of tuberculosis of the intestine is the so-called hyperplastic lesion. This is frequently called primary, chiefly because in this type there is no other demonstrable tuberculous focus either in the lungs or elsewhere. The term primary is therefore probably accurate in most cases, but without complete examination at autopsy, one is not justified in speaking of these cases as primary, and the term hyperplastic tuberculosis is more accurate and descriptive. This is the type to which I briefly invite your attention, with a review of 65 cases from the literature and one of my own.

AGE INCIDENCE

It is remarkable that the lesion seems to occur most frequently between the years of 25 and 30. The case of my own was that of a patient 27 years old.

PATHOLOGY

The condition is much less frequent than is the ulcerative type. In an article reporting 48 tumors of the cecum, Erdman and Clark, in 1927, found seven cases of tuberculosis of

the cecum and terminal ileum in which there were symptoms of intestinal obstruction. In all of these there were no evidences of pulmonary foci. The pathology is typical, characteristic and strikingly similar in almost all reported cases. It is most frequently found in the terminal ileum, cecum, right colon and, sometimes, the appendix. Only occasionally is it associated with tuberculous peritonitis, and most rarely with an active pulmonary tuberculosis, as demonstrable by physical examination and x-rays.

The outstanding feature in all of the cases is a generalized hyperplasia of the entire wall of the bowel with old, healed scar tissue resulting in stenosis of the lumen, in some cases the stricture being 5 mm. or less in diameter. The mucosa is thickened and often projects into the lumen as papillary elevations, some of these from 1 to 2 cm. long. Ulceration is not prominent, though in many cases small, healed and unhealed ulcers may be found. Grossly, little is seen to suggest more than a determined and successful reaction to combat a chronic infectious process, so the pathologist may be disinclined to agree with the clinical diagnosis of tuberculosis until sections are examined.

CLINICAL PICTURE

The clinical picture is that of chronic intestinal obstruction. The chief symptom is paroxysmal attacks of abdominal pain or colic. The pain may be localized in the lower right abdominal quadrant, or the epigastrium; or it may be felt throughout the abdomen. Associated with the pain there is always nausea and vomiting, more or less rumbling of gas, and frequently diarrhea. Between the attacks, constipation is the rule. There are no chills or fever, and no blood in the stools, although mucus may be present. As the disease is commonly chronic, the symptoms usually will be found to have existed for a long while, one to three or four years. As the disease advances, and it is progressive, the symptoms become more frequent, the periods of remission shorter, and the patient

*Presented to the Mecklenburg County (N. C.) Medical Society, Charlotte, Jan. 20th, 1931.

loses weight gradually. There is rarely any symptom suggestive of a pulmonary involvement, and all symptoms are below the diaphragm.

While there may be a loss of weight, this is gradual and not marked, so, when the patient presents himself to the surgeon, he is usually fairly well nourished and not acutely ill. The temperature and pulse are normal, there is no cough, and the lungs are clear. The abdominal signs may be quite vague. Distention is not striking, there is no visible peristalsis, and not always is there a mass palpable. In some of the reported cases, a palpable mass is present in the lower right quadrant where it should always be looked for. The blood picture is unimportant, possibly a mild secondary anemia but no leucocytosis. The Wassermann is always important, and except when the patient has syphilis, also, of course is negative.

DIAGNOSIS

It is largely on the history and x-ray findings that the diagnosis rests. The x-ray studies are remarkably characteristic. As already noted, the disease is most commonly in the ileo-cecal region. The x-ray findings are (1) a constant filling defect of rather diffuse character in the cecum or ascending colon; (2) a marked stasis in the terminal ileum; and (3) general colic hypermotility. These features are well demonstrated, both by the barium meal and by the barium enema.

Naturally enough, appendicitis has been the preoperative diagnosis in numerous of the reported cases; but when the prominence of vomiting and alternate constipation and diarrhea are given due value, one should become suspicious enough to have an x-ray study, after which the diagnosis may be easy.

Malignancy of the colon is the next most likely source of diagnostic error. It is a remarkable fact, as already alluded to, that hyperplastic tuberculosis of the colon is most frequently seen in the young adult of 25 to 35 years, while malignancy, most commonly, though by no means always, occurs after the 50th year. Blood is more commonly to be found in the stools in malignancy, and in general I believe diarrhea is rarely a symptom of malignancy of the colon. In the x-ray, the lesion of hyperplastic tuberculosis is more diffuse, involves more of the bowel wall, than malignancy, which is essentially a local pro-

cess. There may, however, undoubtedly be occasions when this differential diagnosis is not possible.

TREATMENT

The treatment of hyperplastic tuberculosis of the colon is excision of the diseased segment with ileo-colostomy.

Case Report

27-year-old Negro man, married, textile employee, admitted to Good Samaritan Hospital October 9th, 1930, complaining of attacks of abdominal pain, nausea, vomiting, alternate constipation and diarrhea, and gas rumblings. The pain usually started in the lower right quadrant and radiated upwards around the umbilicus and into the epigastrium. Vomiting occurred with every attack and sometimes relieved the pain. Nausea was usually extreme during the pain. At the beginning of the attack, diarrhea would develop with four to six stools a day, often of a foamy, frothy character. No blood present in the stools. No chills, no fever. At first, intervals between the attacks were as long as two or three weeks, and the attacks themselves lasted only about one day. Recently, attacks have been much more frequent and would last as long as a week, confining him to bed for the period. Appetite on the whole has remained good, and his weight has come down from 165 to 148, his weight on admission. Otherwise, the history was negative. Had a wife and four children living and well. The family history is interesting in that he voluntarily stated to me that his mother died of "bowel tb." nineteen years ago. Other than this, no history of tuberculosis or cancer in family.

The physical examination was not important. He was fairly well nourished and there was tenderness in the lower right quadrant. I did not feel any mass and there was no abdominal distention. No pathologic findings in blood or urine, and the blood Wassermann was negative. I failed to attach sufficient importance to certain details of his story and committed the error of diagnosing the condition as appendicitis and operating for this disease—with this reservation, that the abdomen was opened through the middle of the right rectus muscle instead of the McBurney incision which I usually prefer in an uncomplicated interval appendicitis. Primary tuberculosis of the intestine was not once suspected until the colon was explored.

Operative Treatment.—With abdomen open, the cecum excited no interest, and the appendix, which did not look like a three-year-old, was removed, the stump cauterized, ligated and buried as usual. I then took a look around and at once found the key to the situation, an enormously dilated, thickened, terminal ileum. The incision was enlarged upward and on exploring the colon above the cecum the real lesion was found. Beginning about three inches

above the cecum, the ascending, hepatic flexure, and half of the transverse colon showed the typical intense hyperplasia which is so characteristic of the disease. The right half of the colon and terminal two feet of the ileum were mobilized by dividing the lateral reflection of the peritoneum from the gall-bladder region to the brim of the pelvis. This allowed the entire mass, consisting of the diseased colon and terminal ileum, to be delivered to the outside of the abdomen where the division of the mesenteries and ligation of the vessels were easily carried out. The colon was divided between clamps in the middle of the transverse colon and the ileum about two feet from the ileo-cecal valve, and that portion between these sites removed. This part of the operation involved considerable dissection and the opening up for a wide area the retroperitoneal connective tissue spaces, and as the patient had about reached the limit of his endurance it was considered best to conclude the operation by closing aseptically the resected ends of the colon and ileum respectively and fixing both closed ends in the incision, thus dividing the operation into stages and allowing the patient opportunity to recuperate before completing the establishment of the intestinal continuity. The closed ends of the gut were stitched together on one side and anchored in the incision, projecting about one inch beyond the skin. The plan was to later open the ends of the bowel, apply forceps to and destroy the septum, and the intestinal continuity being so restored, finally to close the remaining fistula, somewhat after the principle of the Mikulitz operation. Thirty-six hours after the operation, the ends of the bowel were opened and a suitable Paul's tube fixed in each and drained by a rubber tube into a suitable receptacle at the side of the bed. The patient's diet was then rapidly built up. During the next eight days progress was satisfactory. At the end of this time there had been enough retraction of the bowel ends to make the application of forceps uncertain and therefore dangerous. As a result the abdomen was opened on the left side and a side-to-side ileo-colostomy performed, using a large Murphy button. This anastomosis was made just as close as possible to the ends of the intestine anchored in the former incision. Convalescence was uneventful, and 12 days later I closed the ends of the bowel and repaired the first incision. The patient was discharged well on November 15th, 1930, with good function and has remained so to date.

Examined on January 20th, 1931, he had gained weight, was able to work, suffering no abdominal pain and had a good bowel function.

Pathology.—By Dr. Harvey P. Barret: Section of the diseased colon showed extensive infiltration and hyperplasia of all the coats, with hyperemia and marked injection. No ulcerations of the mucous membrane present. Mucous membrane was redundant and greatly thickened, projecting well into the

lumen and causing marked stenosis. The partial obstruction was thus caused by diffuse narrowing of the lumen as result of the extensive infiltration.



Microscopic examination showed miliary tubercles and numerous giant cells in the submucosa with hyperplasia, epithelioid and leucocytic infiltration throughout all the coats.

Laboratory.—Red blood cells 4,500,000; white blood cells 11,500; hemoglobin 85 per cent. Urinalysis: acid, 1010, negative. Blood Wassermann: negative.

REMARKS

This case is of interest on at least two counts. First and foremost, from the standpoint of diagnosis. It teaches again and emphasizes that common observation that one must be constantly alert in the practice of medicine to avoid assuming the obvious and must be ever cognizant of the fact that the seemingly simplest of cases may abruptly present unusual obstacles. Secondly, it illustrates the safety of the multiple stage operation. I believe that a one-stage operation on this patient would very likely have proved fatal. A patient with long-standing chronic obstruction, in none too good physical condition, and a primary operation necessitating a wide dissection, all make up a situation of considerable potential risk. By the 2-stage operation this man came through very satisfactorily. There was no post-operative vomiting, no distention, and at no time did his condition become alarming to the slightest degree. The end result, accordingly, has also been good to date.

—623 Professional Building.

The Value of Co-operation in Veterinary and Human Medicine and the Allied Sciences, With Special Reference to the Life and Work of Louis Pasteur*

FREDERICK R. TAYLOR, B.S., M.D., High Point, N. C.

The invitation to speak to this body set me questioning why there should not be a closer relationship between human and veterinary medicine and the allied sciences. Each has its own peculiar problems, of course, yet has not each much of value to contribute to the others? Added impetus was given to this line of thought on reflecting that less than a year ago, throughout the civilized world, many important groups of workers in the various medical sciences celebrated the centenary of the birth of France's greatest man, a man who, while not a physician, human or veterinary, made such epoch-making contributions to both these professions that no investigator from either of them has ever surpassed him.

In comparing veterinary and human medicine, we are at once brought face to face with the fact that each science is ahead of the other in certain respects. The rigid government control of many epidemic diseases in animals is one of the great achievements of modern times, whereas it is a matter of shame that often less government effort and money is expended in controlling human disease than is spent in veterinary medicine. Of course, these two fields often merge, as in the control of tuberculosis in cattle, and here human medicine owes a great debt to veterinary science. In many other ways we physicians must acknowledge our debt to you. While Pasteur made the fundamental researches on the control of rabies, members of your profession have thrown great light on many of the details of this dread disease. The best thing on rabies in my library is the chapter on that subject in vol. v of the *Oxford Medicine*, by Dr. Langdon Frothingham, formerly Instructor in Comparative Pathology in the Veterinary School of Harvard University. His chapters on glanders and anthrax, in collaboration with Dr. C. W. McClure of the Harvard Medical School, are also very interesting, and here the idea of coöperation be-

tween human and veterinary medicine is worked out with excellent results.

Public health work would be terribly handicapped without veterinary science. It is invaluable in dairy and meat inspection, and in a host of other ways. The preparation of many sera and other biologic products used in human medicine is largely dependent on veterinary skill.

In some ways, human medicine naturally takes the lead. A commercial value is placed on an animal, but who can measure the life of a human being in dollars and cents? Therefore individual methods of diagnosis and treatment are necessarily carried to a far higher degree of perfection in everyday medical practice than is economically possible in veterinary work.

In the field of education, comparative studies are always valuable. A knowledge of comparative anatomy and physiology always gives a higher appreciation of human anatomy and physiology.

So, in countless ways, human and veterinary medicine are interdependent. In private practice, however, the two fields are much more isolated from each other. I have often wondered if some of the simplest modern diagnostic procedures used in everyday human practice, such as, *e.g.*, a study of a blood film with a differential count of the white corpuscles, are recognized to be of practical utility in veterinary diagnosis. However, I fear that I am displaying some of my vast ignorance of this subject, and therefore hasten to more familiar ground, to try to present a brief sketch of the life and work of Pasteur.

To those not already familiar with the book, I would highly recommend *The Life of Pasteur*, by René Valéry-Radot, translated from the French by Mrs. R. L. Devonshire, and published by Doubleday, Page and Co. The brief sketch here presented is derived from this source. The human, as well as the scientific, interest of this book marks it as

*Presented by Invitation to a Meeting of the Southeastern States Veterinary Association at Greensboro, N. C.

one of the most fascinating biographies of all time.

Pasteur's father, Jean Joseph, was a soldier of France who became sergeant-major and won the Cross of the Legion of Honor. With the downfall of Napoleon, he entered upon civilian life. Soon he married and settled in Dole, a village in eastern France near the Swiss border.

On Friday, December 27th, 1822, Louis Pasteur was born. His boyhood was a normal one: he was in no way precocious. He was an average pupil in school, he delighted in fishing, but avoided the popular pastime of bird trapping, as the sight of a wounded lark was painful to him. He preferred drawing above his other studies. His father was a stern, serious man, with a very high sense of honor, his mother an intellectual imaginative woman. The home was a happy one, and each parent supplied traits of character which admirably supplemented those of the other. Louis's greatest joy was to listen to recitals of noble deeds done for the glory of France. Three friends of the family greatly influenced the development of Louis's character during this period. These were an old army surgeon, Dr. Dumont; a philosopher named Bousson de Mairat; and M. Romanet, the headmaster of Arbois College.

At the age of 15 Louis was sent to Paris to broaden his education, but suffered exquisitely from homesickness. His parents suffered no less, and one morning his father, who had been informed of his condition, and who had gone to Paris, went to Louis and simply said, "I have come to fetch you." Further explanations were unnecessary. Louis returned to Arbois, and later went to the college at Besancon, where he soon combined study and teaching. He obtained a bachelor's degree in both letters and science, though in chemistry he was rated as mediocre! At the age of 20, he went once more to Paris, where he came under the influence of M. Dumas, a celebrated chemist. Soon he began to think about certain unexplained peculiarities that had been noted in connection with tartaric and paratartaric or racemic acid. The first fruit of his work was, however, the extraction of 60 grammes of phosphorus from bones. Meanwhile his parents were cautioning him against overwork and overgenerosity in his support of them. He was not long in reaching his first great discovery, *viz.*, that racemic

acid was a mixture of two acids of opposite rotatory powers. This opened a way for the study of a whole new class of isomeric substances.

He was impatient to begin new researches, when a sad blow struck him; his mother died of apoplexy.

Shortly after this, Pasteur became Professor of Physics at the Dijon Lycée. His reputation was already firmly established for ironclad honesty, sterling industry, and fruitful research. A year later he became an assistant in chemistry at Strassburg, where he came to know intimately the new Rector of the Academy, M. Laurent, and his family. This acquaintance led to a great event in Pasteur's life. The following official letter to M. Laurent is of special interest because of the sterling honesty and conspicuous unselfishness which it reveals, and the light it throws on Pasteur's hopes and dreams.

"Sir:

"An offer of the greatest importance to me and to your family is about to be made to you on my behalf; and I feel it my duty to put you in possession of the following facts, which may have some weight in determining your acceptance or refusal.

"My father is a tanner in the small town of Arbois in the Jura, my sisters keep house for him, and assist him with his books, taking the place of my mother, whom we had the misfortune to lose in May last.

"My family is in easy circumstances, but with no fortune: I do not value what we possess at more than 50,000 francs, and, as for me, I have long ago decided to hand over to my sisters the whole of what should be my share. I have therefore absolutely no fortune. My only means are good health, some courage, and my position in the University.

"I left the Ecole Normale two years ago, an agrégé in physical science. I have held a Doctor's degree eighteen months, and I have presented to the Academy a few works which have been very well received, especially the last one, upon which a report was made which I now have the honor to enclose.

"This, Sir, is all my present position. As to the future, unless my tastes should completely change, I shall give myself up entirely to chemical research. I hope to return to Paris when I have acquired some reputation through my scientific labors. M. Biot has often told me to think seriously about the Institute; perhaps I may do so in 10 or 15 years' time, and after assiduous work; but this is but a dream, and not the motive which makes me love Science for Science's sake.

"My father will himself come to Strassburg to make this proposal of marriage.

"Accept, Sir, the assurance of my profound respect, etc.

"P. S. I was 26 on December 27th."

The proposal was accepted, and the marriage inaugurated a long and happy union. Madame Pasteur placed the laboratory before everything, and was a constant inspiration in her husband's work.

After discovering how to prepare racemic acid from tartaric, a feat which he had believed impossible, Pasteur directed his researches towards the solution of certain problems connected with fermentation processes. Along with these problems he tackled the question of spontaneous generation, generally believed in at that time. He wrote, "It seems to me that it can be affirmed that dusts suspended in atmospheric air are the exclusive origin, the necessary condition of life, in infusions," and added in a sentence at that time little noted. *"What would be most desirable would be to push those studies far enough to prepare the road for a serious research into the origin of various diseases."*

On April 7th, 1864, he dealt a death blow to the theory of spontaneous generation as it then existed, by demonstrating that properly sterilized and sealed infusions could not develop living forms in them.

In 1865 a terrible epidemic was ruining the silkworm industry of France, and Pasteur took up the solution of this problem. In the midst of his work his youngest child became fatally ill. Pasteur worked by day in the laboratory, and sat at the bedside of his dying child by night. When the ordeal was over, he took the tiny coffin to Arbois, and then returned to work, finally demonstrating the nature of the silkworm epidemic and devising effective means to stamp it out.

In 1868 the University of Bonn gave him the degree of Doctor of Medicine for his researches on the generation of microorganisms and on fermentation, but the crimes of the Germans in the Franco-Prussian War caused him to repudiate this in 1871, in a letter to the Faculty of the University which is a masterpiece of righteously indignant protest.

In 1877, Pasteur began his epoch-making researches on anthrax, and this was quickly followed by a discovery of the utmost importance to human medicine, that of the cause of puerperal fever.

The control of chicken cholera was his next

triumph. In 1881 he completed the anthrax work. While engaged in it someone suggested to him the danger of personal infection. His reply was characteristic of the simple greatness of the man; "What does it matter? Life in the midst of danger is *the* life, the real life, the life of sacrifice, of example, of fruitfulness."

Meanwhile, Pasteur was becoming a national hero. The control of swine fever and valuable researches on pleuropneumonia of cattle extended his reputation still farther. In 1874 the French Government had voted him a 12,000 franc pension, and now they proposed to increase this to 25,000 francs. Recapitulating his investigations in an official report, Paul Bert stated,

"They may be classed in three series, constituting three great discoveries.

"The first one may be formulated thus: Each fermentation is produced by the development of a special microbe.

"The second may be given this formula: Each infectious disease (those at least that M. Pasteur and his associates have studied) is produced by the development within the organism of a special microbe.

"The third one may be expressed in this way: The microbe of an infectious disease, cultivated under certain detrimental conditions, is attenuated in its pathogenic activity; from a virus, it has become a vaccine.

"As a practical consequence of the first discovery, M. Pasteur has given rules for the manufacture of beer and vinegar, and shown how beer and wine may be preserved against secondary fermentation which would turn them sour, bitter, or slimy, and which render difficult their transportation and even their preservation on the spot.

"As a practical consequence of the second discovery, M. Pasteur has given rules to be followed to preserve cattle from splenic fever contamination, and silkworms from the diseases which decimated them. Surgeons, on the other hand, have succeeded, by means of the guidance it afforded, in effecting almost completely the disappearance of erysipelas and of the purulent infections which formerly brought about the death of so many patients after operations.

"As a practical consequence of the third discovery, M. Pasteur has given rules for, and indeed has effected, the preservation of horses, oxen, and sheep from the anthrax disease which every year kills in France about 20,000,000 francs' worth. Swine also will be preserved from the rouget disease which decimates them, and poultry from the cholera which makes such terrible havoc among them. Everything leads us to hope that rabies will also soon be conquered."

On July 14th, Bastille Day, Pasteur went to his home village at Dole to witness the placing of an inscription by the French Government on the house where he was born. Honors were heaped upon him at this time. His speech on this occasion should be read by everyone. Time forbids quoting it here; suffice it to say that he gave all the credit for what he had done to his parents and to France.

In all his work, one mysterious horror constantly haunted the mind of Pasteur, that of rabies. The first two mad dogs brought into his laboratory were given to him in 1880 by M. Bourrel, an old army veterinary surgeon who had long been trying to find a remedy for hydrophobia. Thus began a long series of investigations. Salivary inoculations proved very variable in their results, but, becoming convinced that the virus was present in the central nervous system, Pasteur tried inoculation with material taken from the medullas of rabid animals, and thus obtained a more reliable means of artificially producing the disease. Direct inoculation, under anesthesia, into the brain tissue of healthy animals, proved a great time saver in his work, by materially shortening the period of incubation. The next step was the preparation of an attenuated virus by drying, as you all know, and this led to the brilliant results with which everyone is now so familiar.

The account of Pasteur's first application of his great discovery to a human being is one of the most fascinating of all human records. His caution in consulting with Vulpian, one of the foremost physicians of his day; his love of humanity, no less than his love of science; his varied emotions, his anxiety, dread, and sleepless nights, as the injections became more virulent; all grip the reader with the most tremendous human interest. The victorious outcome of this case, the account of how he later received and treated 19 Russians terribly bitten by wolves, the Czar's gift of a diamond Cross of the Order of St. Anne of Russia and 100,000 francs to help the proposed Pasteur Institute, and many other dramatic episodes, are well known facts of history.

The great scientists of the world now flocked to Pasteur to learn of him and do him honor. No amount of success, however, could turn his head. At the very height of his fame, he said these words,

"Worship the spirit of criticism. If reduced to itself, it is not an awakener of ideas or a stimulant to great things, but, without it, everything is fallible; it always has the last word"

"It is indeed a hard task, when you believe you have found an important scientific fact and are feverishly anxious to publish it, to fight with yourself, to try and ruin your own experiments, and only to proclaim your discovery after having exhausted all contrary hypotheses.

"But when, after so many efforts, you have at last arrived at a certainty, your joy is one of the greatest which can be felt by a human soul"

After the establishment of the first Institute named for him, Pasteur, though now sick and weary, indefatigably attended the Hydrophobia Clinic daily. His human interest in his patients was great, especially in the children. "When I see a child," he used to say, "he inspires me with two feelings; tenderness for what he is now, respect for what he may become hereafter."

On his 70th birthday all France honored him. Perhaps no testimonial touched him more than these simple words spoken by the President of the Student's Association: "You have been very great and very good; you have given a beautiful example to students."

When his active working days were over, Pasteur had the exquisite satisfaction of seeing further great medical triumphs achieved by his students. One of these was the isolation of pure diphtheria toxin by M. Roux, which led to v. Behring's and Kitasato's discovery of antitoxin. Another was the solution, in part, of the problem of plague control, still another was the demonstration by Metchnikoff of the phagocytic power of the white blood corpuscles.

On November 1st, 1894, Pasteur was seized with an attack of uremia. By the end of the year, however, he began to improve, and soon was able to be carried to the laboratory. Meanwhile, Pasteur institutes were springing up all over the world. In the summer of 1895 he grew weaker again, and all the care of his devoted wife and his associates in the Institute was unable this time to stay the hand of the Grim Reaper. On Saturday, September 28th, 1895, at 4:40 in the afternoon, surrounded by his family and disciples, this great and good man passed away in his 73rd year.

It is always interesting to try to peer into the future. Medicine, Veterinary Science,

Biology, Chemistry, and other allied sciences, have all grown so amazingly of late that one mind cannot master them all, and it seems hardly likely that we shall again see as versatile a master as Pasteur. When the individual mind begins to stagger under its burden of scientific complexity, where can we look for help? The answer seems clear: *We must appeal to coöperative research among scientists from various allied fields.* The National Research Council has already demonstrated the value of this. Public health work demonstrates it daily. Cannot many special problems, some of them limited to particular communities, be similarly worked out? I believe that coöperation in human and veterinary medicine and the allied sciences will in the future advance the physical welfare of man and beast to a degree that will make our present methods seem clumsy and elementary.

MISTAKES IN GENERAL PRACTICE

(Foshion, H. V., Wisconsin Medical Jour., Jan., 1931)

The largest group of errors we, as general practitioners, make are no doubt so-called errors of omission. Symptoms in one organ may be the result of trouble in some other part of the body remote from it. To omit a thorough history and physical examination is a mistake which may be serious.

The fact that the patient's complaints are vague, indefinite or obscure is the very best indication for a complete *systematic* history and physical examination. The only way to arrive anywhere near the correct conclusion in a case like that is first to lead the patient with a series of questions designed to bring out symptoms referable to the different systems of the body, preferably beginning with general symptoms first, such as lack of energy, sleep, loss of weight, etc.; then following that according to some plan.

The physician may be in a hurry due to an urgent call, or because of uneven distribution of work. In that case an arrangement should always be made for further consultation rather than to try to complete the consultation in a hurry, and thereby omit something important. Frequently the patients are also in a hurry, not for any special reason.

Simple negligence may be a source of error. Errors may be made because of a lack of complete knowledge of a given ailment and its protean manifestations, or because one temporarily forgets some phase of it. We sometimes allow ourselves to be deviated from what we believe to be the best course to follow, because the patient or his family is prejudiced in some way.

Expense to the patient is another factor. For example, if there is not a very definite indication for

an x-ray examination we frequently fail to advise it. Yet, that same patient may go to a clinic and spend more for transportation alone than the entire cost of his diagnosis would amount to at home. We may decide to treat a patient at home because she can not afford to be hospitalized. Only a short time ago I had a patient suffering with a moderately severe exophthalmic goitre. She being the wife of a laboring man who was making very little money, I advised her to get someone of her relatives to do her housework, and I put her to bed under medical treatment until able to determine the best time for operation. It was only a few days when these relatives of hers induced her to go to a hospital in another city. After a short rest she had her thyroid removed.

Another form of sympathy which may be a mistake is that of taking too much of the family's burden upon our own shoulders in case of serious illness. By so doing we expose ourselves to criticism if the outcome happens to be a fatal one. We will not be credited with compassion for this, but charged with inability to realize the extent or seriousness of the illness.

Lastly, there are those errors which are purely accidental which we must continually be on our guard against. The late Dr. Loevenhart used to tell us that we should always look at the label twice before administering a drug, because once the drug is in the patient it is pretty hard to get it out. This is especially true of subcutaneous or intravenous medication. If using the medication intravenously one should always remember to inject it slowly and *stop immediately should the patient experience any unusual sensation.*

SOME PRINCIPLES IN THE TREATMENT OF BEHAVIOR PROBLEMS IN CHILDREN

(Lowery, L. G., in Jour. Nervous and Mental Diseases, Jan., 1931)

Sexual incompatibility and lack of social interests in common with the husband intensify the mother-child relationship. The child must then bear the brunt of the unsatisfied love life of the overprotective mother and absorb all her social activities. In the early life of our overprotective mothers, two factors stand out clearly: inadequate affection and early responsibility. The responsibility is shown in regard to early self-support or contribution to family earnings, and also in occupying an authoritative position over other siblings. It appears plausible that mothers in our group, affect-hungry since early years, try to satisfy their incomplete lives almost exclusively in maternal relations. Attaining that state, they entrench themselves in a mother-child monopoly through an aggressive offensive against all intruders, including the husband. The wife is competent, takes responsibility readily, is often derogatory of her husband.

The Clinical Manifestations and Treatment of Hypopituitarism*

HERMAN R. PARKER, M.D., Greensboro, N. C.

A typical syndrome of hypopituitarism is somewhat rare, and the atypical ones are so variable and obscure, both from the clinical and therapeutic standpoints, that it is practically impossible to estimate the frequency of this affection. On the other hand, the vast majority of the members of the medical profession have such a vague knowledge of, and yet are so aware of the bewildering perplexities involved in, all forms of dyspituitarism that we dare not cast a discerning eye upon these pitiful patients with any thought in mind of that most distressful little gland, the hypophysis cerebri. But almost daily the task is before our eyes and we cannot relentlessly turn our backs upon these endocrine problems without at least attempting some solution.

Hypopituitarism is only one phase of the pituitary disturbances, and, before considering the clinical manifestations and treatment of this perversion, it is necessary that we have a clear conception of 1. the anatomical relationships, 2. the histological structure, and 3. the physiological functions of the gland and its separate lobes.

Anatomically, the pituitary body is a small, oval, reddish-gray gland situated at the base of the brain and lying in the sella turcica of the sphenoid bone. In man it is about 1 cm. x 1 cm. x 1.5 cm., weighs from 0.5 to 0.8 gms., and it is noticed that with a rise in the phylogenetic series of animals the gland decreases in proportion to the size of the brain. It is connected with the base of the brain by a stalk, the infundibulum, which projects downward from the anterior portion of the tuber cinereum uniting with the posterior lobe of the gland. It is enclosed by a dural sheath which is a continuation of the basal dura downward around the infundibulum forming a circular fold, the diaphragma sellae, which almost completely closes over the hypophysis; then it is reflected to the walls of the sella turcica which it completely lines. The pituitary blood supply is derived from the internal

carotids, as they pass through the cavernous sinus, and from the circle of Willis.

Histologically the pituitary body consists of three separate parts, an anterior lobe, a posterior lobe and the pars intermedia. The anterior lobe is of epithelial origin, being derived from Rathke's pouch which is a diverticulum of the pharyngeal epithelium, and is composed of three types of cells, basophiles, acidophiles and clear or chief cells, the granular types predominating. However, during pregnancy the clear cells increase, both in number and size, and undergo a process of involution after pregnancy terminates. This part of the gland is very vascular, and many of the columns of epithelial cells are surrounded by venous spaces by means of which their secretions enter directly into the blood stream. The pars intermedia, though grossly a part of the posterior lobe, is also of epithelial origin, and consists mainly of large clear cells which line small vesicles containing a glairy colloid substance, very similar to that found in the thyroid, but containing no organically combined iodine. This substance is found most abundant adjacent to the posterior lobe through which it passes to enter the third ventricle by way of the infundibulum, and it is interesting to know that this colloid material increases in quantity following thyroidectomy. The posterior lobe, the pars nervosa, is composed chiefly of neuroglia fibers and a comparatively small number of ependymal cells. It is less vascular than the anterior and intermediate portions, and in the interstices formed between the neuroglia and ependymal elements are seen greenish-yellow granular masses of colloid material which have undergone a hyaline degeneration while en route from the pars intermedia to the third ventricle where it is mixed with cerebrospinal fluid.

Physiologically the hypophysis is undoubtedly one of the most important glands of the endocrine system, but, owing to the fact that

*Presented to the Guilford County (N. C.) Medical Society, meeting at High Point, Nov. 13th, 1930.

it is so closely interrelated with and influenced by other glands of this system, functional alterations may produce various symptom complexes rather than typical syndromes. However, as a result of extensive experimental work done by a number of ardent and sincere workers during the past few years, it is generally accepted that clinically the gland is divisible into only two physiological portions, the anterior and posterior lobes. The anterior lobe discharges its secretions directly into the blood stream. Its functions may be briefly outlined as follows: 1. it regulates and controls the growth and development of bones, 2. it regulates and controls the development and functions of the organs of reproduction and the secondary sexual characteristics, 3. it stimulates the development and tone of the voluntary muscles. The functions of the posterior lobe, including the *pars intermedia*, are: 1. to regulate carbohydrate metabolism and fat formation, 2. to stimulate contraction of all smooth muscle tissue, this action being especially marked upon the musculature of the pregnant uterus, 3. to stimulate the heart and the muscular coats of the blood vessels, producing a slower and more powerful pulse, thereby maintaining an active circulation and a constant blood pressure.

Judging from the histology and physiology of the hypophysis, it is evident that we have two lobes as different in structure and function as if they were separate glands located in different parts of the body, and, while there is undoubtedly much to be learned regarding the physiology and the hormonal effects of their secretions, there is already enough absolute knowledge concerning the most important functions of each lobe to justify at least a simple and, let us hope, an accurate anatomico-physiological classification of the hypophyseal perversions. If we adhere strictly to the hormonal signs and, at the same time, keep in mind the physiological functions, of the two lobes, we may, with fair accuracy, classify the dyscrasias of this gland, according to the lobe at fault, into: 1. hypo-anterior pituitarism, 2. hypo-posterior pituitarism, 3. hyper-anterior pituitarism, and 4. hyper-posterior pituitarism. However, it is a well known fact that a case of hypersecretion of either lobe, in the course of time, will almost invariably change into exactly the

opposite state of function,—that of hyposecretion. This fact forcibly demonstrates the need of placing these disorders on the basis of the functional activity of the separate lobes, and this function, or state of secretion, must be determined at the time of observation rather than make a diagnosis on signs of skeletal over- or under-growth, function of the genitalia, or obesity, which may be clinical signs resulting from secretory disturbances of several years past.

ETIOLOGY

The etiology of hypopituitarism is very obscure. A minority of the cases can be definitely attributed to tumors either of the pituitary gland or some neighboring structure as, for instance, the pineal body, causing pressure upon the hypophysis. There seems to be little evidence in support of such possible predisposing causes as age, sex and infection. However, owing to the frequency with which all forms of endocrinopathies develop during alterations at the physiological epochs, undoubtedly changes in the gonadal system associated with puberty, menstruation, pregnancy, and menopause are potent factors in many cases of dyspituitarism. Other endocrine disturbances, especially altered secretions of the thyroid, adrenals, and pineal glands, occasionally complicate the syndromes and reveal the possibility of being primary to the pituitary disturbances. It is known that in the last stages of acromegaly there is usually a condition of hypopituitarism, but, except in the neoplastic cases, no constant factor can as yet be definitely allotted the credit of diminishing the hypophyseal hormones.

SYMPTOMATOLOGY

In considering the clinical symptoms of hypopituitarism, it will be well, for practical purposes, to classify them into: 1. neurological manifestations, 2. skeletal abnormalities, 3. sexual dystrophy, and 4. obesity.

Neurological manifestations are chiefly those produced by hyperplasia or tumor formation of the hypophysis, encroaching upon neighboring structures. The nerves most frequently involved are the optic, oculomotor, trochlear and abducens, causing various degrees of visual impairment and strabismus. The visual disturbances, which are the most serious of all local symptoms, are

the results of the hyperplastic struma extending beyond the confines of the sella, or of a neoplasm of the infundibulum, either of which, through pressure, will produce lesions of the chiasm or optic nerves and also interfere with the blood supply of the optic tract. This causes an optic atrophy, a choked disc, and often a bitemporal hemianopsia, and the color fields are always involved before the form fields. Among the most important pupillary manifestations is the absence of light reflex, which may be due to either optic atrophy or oculo-motor paralysis. Exophthalmos is usually present to some degree in case of tumor, and is, in all probability, due to local blood stasis. Also one of the most invariable and annoying symptoms of hypophyseal tumor is the early paroxysmal headaches occupying the frontal and temporal regions and extending into the infraorbital regions. It is variously located as being bitemporal or deep frontal, and the patient usually describes it as being just behind the eyeballs with a sensation of pressure and bursting distention in the lower temporal areas. This most distressful and intractable symptom may last from a few minutes to several days, subsiding only to recur after a variable period. Drowsiness, stupor, apathy, vertigo, and projectile vomiting are rather common late symptoms of pituitary tumor.

Skeletal abnormalities.—One of the most important functions of the anterior lobe of the pituitary gland being to stimulate growth and development of bone tissue, it is evident that a deficiency of its secretions will retard skeletal development; if this begins early in life, there results a lack of development, particularly in the long bones, producing the typical pituitary dwarfism. If, however, this perverted function dates from the period of adolescence, the skeleton is constructed in a delicate manner and more after the feminine type. This is manifested by the broad pelvis, genu valgum, long hands with tapering fingers, and persistent epiphyseal lines of the terminal phalanges demonstrable by x-rays. While a small sella turcica is found in the majority of these cases, it is by no means a constant finding, nor is it necessarily an index to the functional capacity of the amount of gland tissue it contains.

Sexual dystrophy.—It is now definitely established that the anterior lobe hormones are

indispensable to the anatomical development and functional integrity of the gonads, and the recent investigations of Zondek and Aschheim of Germany and Emil Novak of Johns Hopkins have corroborated this in such a way as to cause these men to refer to the anterior lobe of the pituitary as the motor of the ovaries. Of course, when both sexes are considered, it can as truly be called the motor of the gonads; therefore, in hypofunction of the anterior lobe, the genitals and secondary sexual characteristics show retarded or arrested development. In the male, when it occurs before puberty, the penis is only rudimentary and is almost buried in a mass of pubic fat. The testicles are small, soft, and perhaps undescended. The scrotum and prostate are abnormally small, and frequently cryptorchidism with absence of spermatogenesis exists. There is a feminine distribution of hair especially noticed at the pelvis where it covers a triangular area similar to that in the female. The face remains smooth and beardless and the voice is high-pitched. In the female, both internal and external genitalia remain infantile. The clitoris and labia minora are very small and the uterus and ovaries do not develop to any appreciable degree. The mammary glands appear abnormally developed, but consist chiefly of fat and are deficient in gland tissue. The nipples are usually not prominent, menstruation and ovulation are usually lacking, and sterility is almost an invariable accompaniment. Axillary and pubic hair is scant or absent, and these patients usually possess some of the masculine secondary sexual characteristics. When the condition begins after puberty, practically the same is the end result, but it occurs in a regressive order. The genitals atrophy until finally a loss of sexual desire develops with impotence in the male and amenorrhea in the female. An early cessation of menstruation, after it is once established, is one of the most reliable signs of anterior hypophyseal insufficiency. When there is an advanced degree of anterior lobe deficiency, the voluntary muscles are usually undeveloped in cases beginning preadolescent, and soft and flabby when the condition begins later in life. In both instances, however, there is a general lack of muscle tone, and these patients complain of tiring very easily upon slight exertion.

Pituitary obesity is definitely a sign of pos-

terior lobe deficiency, and, according to recent investigators, the hormones of the anterior lobe have no part in producing this condition. The distribution of the obesity varies according to whether the onset is before or after puberty. If it occurs in early life, the adiposity is rather general, involving principally the body trunk with particularly marked collections about the mons, mammae and clavicular spaces. The limbs and head are comparatively small, although the face is full and fat. When the condition begins in adolescence, the adiposus is manifested by small deposits of fat about the hips, upper part of the thighs, mons and lower abdomen, giving the typical picture of girdle obesity. The subcutaneous collections are liable to be so immense about the hips and lower abdomen as to cause a protuberant, sagging and pendulous mass which may even hide the genitals from view. Since the thyroid and the posterior lobe of the pituitary gland are supposed to have a compensatory relationship, it has been generally stated by most observers in the field of endocrinology that an insufficiency of the posterior lobe secretion caused a decrease in basal metabolism, but more recently Englebach and Tierney have shown, from a series of carefully worked up and classified cases of posterior lobe insufficiency, that this is not a constant finding, but that basal metabolism is found slightly below normal in a majority of the cases. The metabolic changes, therefore, are not very striking. The blood-pressure is usually low, the pulse and respiratory rates are decreased, and the carbohydrate tolerance is usually, though not constantly, increased. The blood does not present anything constant, though there is frequently found a leucopenia with a slight increase, both relative and absolute, in the large mononuclears and lymphocytes.

Another condition which is rather frequently associated with any form of dyspituitarism is diabetes insipidus. This was formerly attributed by Cushing and Goetsch to posterior lobe deficiency, but more recent investigations do not substantiate these observations. They have shown very conclusively that any lesion within the opto-peduncular zone, and especially if involving the tuber cinereum, whether tuberculous, syphilitic, traumatic, or neoplastic, will almost invariably cause a

polyuria. It is very evident, therefore, that the diabetes insipidus, so frequently associated with hypopituitarism, is not a symptom of perverted hypophyseal secretion, but a disease entity due to pressure upon or extension of a lesion into the tuber cinereum. Pharmacological experiments, however, have shown an invariable, though slight, diuretic action of the posterior lobe extract; but most of the recent observers consider this concomitant with the rise in blood pressure.

There are also noticeable changes in the skin worthy of mention. The complexion has a very delicate yellowish-white appearance and, in advanced cases, may become white and almost transparent. To the touch the skin feels smooth, marble-like, cool and dry. In the Fröhlich syndrome type, striae are usually very pronounced over the abdomen and hips and on the medial surfaces of the arms. Also there is frequently a coarse dark pigmentation about the face, neck and flexor surfaces.

Such symptoms as set forth in the preceding paragraphs are the chief clinical manifestations of diminished hypophyseal secretions, and it is readily apparent that there may exist all gradations and degrees of symptoms from a slight obesity, due to a posterior lobe deficiency, or a sexual impotence or dysmenorrhea, due to an anterior lobe deficiency, to the condition of dystrophia adiposo-genitalis which is an advanced stage of bilobar deficiency. In some of these cases the picture produced is that of an obstinate and unsightly disfiguration, and, even though these patients are apparently in fair health, they deserve a grave interest and alertness on the part of the medical profession.

PROGNOSIS

As to prognosis, we can as yet say little, and that in very general terms. If a tumor exists, surgical removal is the most hopeful route toward recovery, and, of course, operations involving the base of the brain are very formidable and have an exceedingly high mortality. In cases not complicated by tumors, if the diagnosis is made early and treatment instituted immediately, wonderful results may be obtained, especially in preadolescent cases. A case beginning after puberty in which the generative organs have already begun to atrophy will give fair response to treat-

ment, but occasionally the genitals tend to continue atrophying rather than to resume development.

TREATMENT

The treatment of neoplastic cases is primarily *surgical*, followed if necessary by organotherapy. The successful removal of tumors of the hypophysis is doubtless one of the greatest achievements of modern surgery, and, even though accompanied by a high death rate, the operation should be resorted to, as it offers the only cure in this class of patients. If, however, we are reasonably sure of a malignant process in the gland, or, for any other reason, the surgeon deems it wise not to attempt removal, a decompression, as a palliative measure, should be done.

Radiotherapy has gained entrance into the field of endocrinopathy, and since the report of four cases of hypopituitarism in 1913 by Beclere, who claimed considerable success from the use of x-ray, it has been used with remarkable results in selected cases. The type of dyspituitarism in which it is indicated is that caused by hypophyseal tumors. It has been found to favorably influence the symptoms in general with its most striking and pronounced effects manifested by relieving headache and visual disturbances. The reduction of fatty deposits and the partial return of genital functions are also very pleasing to the patient. But owing to the fact that radiotherapy is so recent, the series of cases so small, and the results of the different men experienced in its use so variable, we are unable as yet to draw any definite or satisfactory conclusions as to its effectiveness.

General measures supplementary to organotherapy, such as diet, rest, hydrotherapy, massage and exercise, are valuable in combatting the nervous and mental states, asthenia, obesity and cardio-vascular disturbances. The diet in particular should be restricted in carbohydrates and fats, and the rest, exercise, etc., should be regulated according to the requirements of the individual case.

Next to hypothyroidism, *organotherapy* exhibits its most efficacious results in the deficiency syndromes of dyspituitarism. So far as we know, the oral administration of posterior lobe extract has no appreciable therapeutic effects, and, owing to the fact that the course of treatment must necessarily be a

prolonged one, it would hardly seem practical to resort to hypodermic administration of pituitrin. The chief indication for endeavoring to supply the posterior lobe deficiency is the obesity which is directly due to a diminished secretion of this lobe, and since practically all cases affected with this type of perversion have a low normal or subnormal metabolic rate, it is only reasonable and, as clinical results show, practical that thyroid extract should be administered as a substitute. It should be given orally in doses of from 2 to 5 grains daily, the dosage regulated and established according to the requirements of the individual case.

In case of an anterior lobe deficiency, we are more fortunate; the extract of this position of the gland is effective when administered orally. This is given in doses of from 5 to 15 grains three times daily until clinical results are obtained, and then the dose may be diminished or regulated according to the requirements of the case. Antuitrin, in doses of 1 c.c., should be given intramuscularly at 2 to 5 days intervals, in conjunction with the oral preparation, until such symptoms as menstrual disturbances in the female and impotence, loss of libido, and lack of development of the gonads in the male are relieved. Of course, in the bilobar deficiency, one should combine the two methods, giving both thyroid and anterior pituitary lobe extract.

After a period of treatment varying from one to four or five months, practically every case will show marked improvement which will be manifested, in cases of posterior lobe deficiency, by 1. a redistribution of fat from the girdle and thighs to the shoulders, chest and back, 2. a reduction of weight, 3. increased metabolism, and 4. a decreased sugar tolerance. In cases with insufficiency of anterior lobe secretions, clinical and therapeutic results are manifested by 1. a stimulation of sex activities, 2. a development of the corresponding secondary sexual characteristics with disappearance, to a variable degree, of secondary sexual characteristics of the opposite sex, and 3. a resumption in development of the skeleton and gonads in preadolescent and early adolescent cases.

Following are reports of 3 fairly illustrative cases which are at present under my care:

Case Reports

CASE 1.—A school girl, 16, whose mother consulted me in September of 1929 stating that the patient's menstruation appeared for the first time on July 1st of that year and was normal, lasting 3 or 4 days, but 2 months had passed without its return. I gave her 5 grs. ovarian extract t. i. d. for 3 or 4 weeks, but the menstruation failed to appear the first of October. I then put her on ovo-ferrin because of a slight secondary anemia. The following month she had a scant flow for 2 days. She continued on ovo-ferrin until some time in January without another period. In February of this year the mother brought the patient to the office for an examination chiefly because the school nurse informed her that the child was underweight and was requiring the girl to use the study period at school for rest. She stated that the child complained of feeling weak and tired and seemed listless and apathetic.

Family history was negative.

She was a slender girl with undeveloped and soft muscles, height 5 ft. 4 in., weight 93 lbs. (The normal weight for that age and height, 116 lbs.) Otherwise the physical examination was negative in every respect. A pelvic examination was not made.

Diagnosis.—Mild hypo-anterior pituitarism beginning with the onset of adolescence.

Treatment.—Anterior pituitary grs. 2 t. i. d. and at the same time estrogen 1 c.c. hypodermically every other day for 6 doses. Two days after the last dose menstruation began and a profuse flow lasted 6 days. I had her continue with the pituitary preparation and she menstruated regularly and normally every month up to and including September, when the mother thought that menstruation was apparently well established and discontinued the pituitary tablets. The next period, which was due October 12th, did not appear. The anterior pituitary preparation was again started and the normal menstrual period returned on the expected date in November. In addition to the establishment of her periods, the parents say that she no longer complains of being weak and tired, but is energetic and interested in her school work.

CASE 2.—A nurse, 26, single, presented herself on July 12th, 1930, with the complaint that at every menstrual period she suffered severe uterine pains until the flow was established; also a protracted sick headache for four or five days before menstruation.

Family history negative.

Has had usual diseases of childhood; otherwise no illness of any consequence. Menstruation began at 14 and was regular every 30 days until 21 when she noticed the interval was getting a little longer and the periods more painful. About 3 years ago she began developing a severe headache with nausea and vomiting every month just before the menstrual flow was established, requiring $\frac{1}{2}$ to 1 gr. codeine to relieve the uterine pains and headaches. For the past year the menstrual interval had been about 6

weeks and these prodromal symptoms had been manifesting themselves from 4 to 6 days before the appearance of the flow, requiring anodynes and narcotics to relieve them.

Height 5 ft. 5 in., weight 128 lbs., general appearance good. A scant growth of dark hair on the upper lip. A pelvic examination was negative as to any abnormal masses or tenderness, the uterus apparently of normal size but slightly retroverted. Otherwise the entire physical examination was absolutely negative so far as I was able to determine.

Diagnosis.—Post-adolescent anterior hypopituitarism.

Treatment.—This patient was given 5 grs. anterior pituitary (P. D. & Co.) t. i. d.

The menstruation which occurred three weeks later was much easier and the headache and nausea less severe, requiring only one aspirin tablet at a time for relief. The menstruation which occurred in September came on without any warning except the usual sensation of heaviness in the pelvis. She was entirely free from headaches and nausea for several days before, and did not even take an aspirin at the onset of menstruation. The October period appeared in a like manner and with the normal four weeks interval.

CASE 3.—A 20-year-old, single girl came into the City Health Department the first week in August of 1929 complaining of a complete cessation of menstruation, feeling weak and tired, and wanting to reduce.

Mother living, well and apparently normal. Father died age 46 of apoplexy. He was obese like the patient. One brother died in infancy. She has one sister, 26, who weighs about 130 lbs. and is apparently normal. Another sister, aged 30, weighs over 200 lbs., but when she was married at age 18 she weighed only 140. There is one brother of apparently normal size and development.

Had usual diseases of childhood, otherwise always seemed in good health. The mother states that the patient was very fat as a baby and continued so, getting much heavier within the last two or three years. The first menstruation came at 13, but did not come again until she was 17, when she says that a doctor gave her something to bring it on. It came again 2 or 3 months later and since then it has recurred about once a year, but at the time she came into the city clinic she had not menstruated for approximately 18 months. There was not much pain associated with any of her periods and no period lasted more than two days.

The general appearance was that of a very obese individual with a protuberant mass of fat sagging from the hips and abdomen lacking about 6 in. reaching the knees. The skin had a light sallow complexion and was smooth and dry. There was a coarse pigmentation on either side of the neck and on the flexor surfaces of the elbows; also a thin growth of dark hair on the upper lip.

Her height was 5 ft. 1 in., weight 310 lbs., pulse 70, blood pressure 110/70, abdomen negative except for the immense adiposity, pubic hair thin and scant.



CASE 3, PHOTO 1—Patient at age of 11.

A pelvic examination revealed a small uterus. Otherwise negative. Urine was negative; red, white and dif. blood counts all normal, blood Wass. negative; basal metabolism minus 5; sugar tolerance test



CASE 3, PHOTO 2—Patient at age of 18, wt. 310.

—1st reading after fasting .08 per cent, 2nd reading following the ingestion of 220 gms. of glucose, or 1.75 gms. per Kgm. of body weight:

1 hour after	-----	.125%
2 hours after	-----	.116%
3 hours after	-----	.08%
4 hours after	-----	.08%

The urine was negative for sugar throughout.

This shows a definitely increased sugar tolerance. Normally after the ingestion of this amount of glucose the blood sugar should rise to 150 or 200 mg. per 100 c.c. of blood.



CASE 3, PHOTO 3—Patient at present—age 21, wt. 165.

A radiogram of the head revealed a sella turcica normal in size and structure. X-ray of one hand found the phalangeal epiphyses united normally.



CASE 3, PHOTO 4—Radiograph of sella turcica showing nothing abnormal.

Diagnosis.—Preadolescent hypo-posterior pituitarism with postadolescent hypo-anterior pituitarism.

Treatment.—Owing to the fact that this patient gave a history of being a very heavy eater, we decided to see what could be accomplished by diet and exercise before resorting to medication. The diet was cut very sharply in quantity and the carbohydrates and fats restricted to a minimum. In fact the patient soon began to complain of getting drowsy

and weak. She co-operated very enthusiastically and every 2 or 3 weeks the scales indicated the degree to which our efforts were being rewarded. She was losing in weight very satisfactorily, but that was not taking care of the amenorrhea; so we started her on $2\frac{1}{2}$ grs. of anterior pituitary the last week in September and 6 weeks later she menstruated for 2 days. On account of the cost of the medicine it was discontinued and menstruation did not occur the next month. By the last of March she had reduced from 310 to 230 lbs.—80 lbs. Another month passed without any appreciable additional loss of weight, and the patient complained of being so weak for the

utive times, whereas before she was menstruating once every 12 to 18 months. Her weight at present is 165 lbs., showing a loss of 145 lbs. in 16 months.

Such complete and advanced cases as this lend themselves best to demonstrate more clearly the hormonal signs and functional disorders of diminished hypophyseal secretions, as well as to give some idea of what the future of these patients must be if allowed to go untreated; while the milder cases, as above reported, illustrate what gratifying results may be obtained and how the more advanced conditions may be prevented.

APPENDICITIS AND ITS TREATMENT

(Stoney, R. A., in *Irish Jour. Medical Sciences*, Nov., 1930)

In all cases where there is infection outside the appendix "Bipp" is used. This is made up as follows: iodoform, 2 parts; bismuth, 1 part; soft vaseline, 13 parts. This has two advantages: it is non-toxic—even if used in large quantities—and it is cheap. The area where the sloughed or perforated appendix lay is well smeared with "Bipp," the abscess cavity (if present) is dried with ether, and then its walls smeared with "Bipp," and if the pelvis contains turbid fluid or pus a lump of "Bipp," the size of a pat of butter is left in the pelvis. A split rubber tube the size of my index finger with a core of gauze impregnated with "Bipp" is passed to the appendix area, a second is placed in the pelvis if it has been involved. The omentum is if possible arranged on the inner side of the tube or tubes and the peritoneum closed tightly around them. The wound itself is then smeared with "Bipp" and closed in layers with catgut, and usually one or two buttoned silkworm gut sutures. Gauze and wool are then strapped on with a hole through which the tube emerges; the whole is then covered by wool and a binder. The wound is not dressed for 48 hours, when the inner dressing is not disturbed, but the "Bipp" gauze is withdrawn from the tube. In many cases there is little or no discharge and the tube is removed in a few days; the case heals practically by first intention throughout. In cases where there is discharge this is sucked up by a syringe attached to a fine rubber tube which is passed to the bottom of the split tube; this is done daily, a piece of iodoform gauze being left loose in the tube and a wet dressing placed over its mouth, while a dry dressing is kept on the wound. In this way the wound heals without infection, even where there is a copious foul discharge from the tube. If the discharge continues after the first week, the tube is washed out daily with hydrogen peroxide and eusol.



CASE 3, PHOTO 5—Radiograph of hand showing complete fusion of epiphyses.

lack of food that she was unable to take her prescribed exercises. We therefore thought it well to resort to glandular therapy and permit a slight increase in the diet. About this time, the first week in May, the patient fell out the door and menstruation began the same day, lasting only 2 days, and very scant. She was given anterior pituitary, grs. $2\frac{1}{2}$ t. i. d. and fresh thyroid gland extract gr. 1 t. i. d., but menstruation did not show up in June. Beginning the second day of July we started her on estrogen—1 c.c. intramuscularly every other day, in conjunction with the pituitary and thyroid preparations. The menstrual flow appeared after the second dose on July 6th. This procedure was repeated the first of August with the same results, the first time the patient had ever menstruated 2 months in succession. This was again repeated the first of September with the menstruum appearing on the 10th, the patient continuing on the thyroid and anterior pituitary. We did not use estrogen the first of October, but the period arrived on the 12th and again on November 15th, thus coming regularly 5 consec-

Case Reports

TWO CASES ILLUSTRATING DIFFICULTIES IN DIAGNOSIS

G. W. KUTSCHER, JR., M.D.

Assistant in Pediatrics, Tulane University Medical School, Fellow in Pediatrics, Charity Hospital, New Orleans.

CASE I

An 11-year-old white girl was admitted to the hospital with two complaints, fever and pain in the left gluteal region. The essential points in the history included onset 15 days previously, at which time she had headache, fever, coryza and a non-productive cough, and temperature of 102. The family physician made a diagnosis of bronchopneumonia. After 12 days she was discharged as improved but retaining a productive cough. Three days later she was admitted to the hospital with the complaints stated. One week earlier a sister died of typhoid fever.

On admission the child appeared acutely ill; temp. was 103 and she was too ill to cooperate well. The physical examination was negative or irrelevant down to the chest. Dullness and absence of breath sounds posteriorly over the right base was discovered. The abdominal examination revealed a large, smooth, firm spleen. Although pain was complained of in the left gluteal region, no tenderness was elicited and rectal examination was negative. Otherwise the physical examination was negative.

Wassermann, Widal, blood culture, several urinalyses and seven malarial smears were negative. Coagulation time was two minutes. Ear consultation reported negative.

W. B. C. 6,000, 6,200 and 6,800. R. B. C. 4,780,000—hbn. 90 per cent; differential—neutrophils 84 per cent, lymphs. 16 per cent.

X-ray report on admission showed a partial collapse of right lower lobe.

X-ray report two days later showed clearly that collapsed lung had filled. The physical signs had also become normal.

The change in the x-ray and physical signs was attributed to the dislodgment of a plug of mucus which had obstructed the large bronchus leading to the right lower lobe; thus the collapse.

The temperature chart showed a variation from 102 to 103 for the first 36 hours after admission, then a drop to normal and an evening rise to 104. The morning temperature was normal and at 8 p. m. the temp. would read 103 for the next 5 days. Prior to the 8 p. m. rise the child would feel cold, but never had a chill. Perspiration was never present. By morning the temp. would be normal. Such was the regular daily temp. excursion.

The fact that the patient had 3 white counts of 6,000, an enlarged spleen and a sister dying of typhoid fever only very recently was taken as presumptive evidence of typhoid fever and a tentative diagnosis was so recorded. When the Widal reaction was reported negative in all dilutions on the fourth day, and the atypical temperature chart, the diagnosis had to be changed. The leucopenia also suggested malaria.

With seven negative smears against the diagnosis, malarial therapy with massive doses of quinine was instituted, and the temperature never again rose above 99. The spleen was reduced in size and six days later the child was discharged from the hospital. The lungs seemed entirely clear. No reason for the gluteal pain could be given. It disappeared.

The most interesting features of the case, even though they be theoretical, were the collapse and rapid clearing of the base of the right lung and the improvement under quinine therapy.

CASE II

A white woman of 35 years was admitted to the hospital because of a neurological condition involving the left side of her body. She stated that she was 65 years old, married but didn't know the name of her husband nor his whereabouts. Upon examination she was found to be about seven months pregnant. Pregnancy she emphatically denied. Additional facts caused her final mental classification as a moron.

In due course she came to term and as her pelvic measurements would not permit of normal delivery, cesarean section was performed. She had not gone into labor, nor had she had a single uterine contraction that was demonstrable. She had been a patient in the hospital then for two months. Her Wasser-

mann reaction on two occasions was negative.

The baby seemed perfectly normal and of full term gestation. Two days later the infant showed gradually increasing spasticity of the muscles of the neck, arm and leg. The child would not lie on its back; when so placed it would roll to either side. On the fourth day of life a cisterna puncture was done and 10 c.c. of clear, colorless fluid under 16 mm. pressure was drawn off. The following day the spasticity was practically gone. The second day saw a return of the spasticity and of greater severity. The Wassermann report for both blood and cerebrospinal fluid was negative for the baby. Another cisterna puncture was done and 15 c.c. clear, colorless fluid was withdrawn. Xanthochromia and icterus index as well as Van den Bergh reactions were all negative for contamination of the fluid. The cell count was normal and no increase of globulin was ever detected.

Following the withdrawal of the cerebrospinal fluid, under pressure, the spasticity would be relieved only to return again in three to four days. After four such drainings the symptoms subsided completely. By all examinations indicated or suggested, nothing else could be discovered to account for the symptoms. The child is now 26 days old and seems to be normal.

Is the mother's mental condition responsible for the child's condition? Will the child become hydrocephalic? What will the mental status of the child be? Did the child have a hemorrhage into the cerebral cortex which could not be diagnosed? On the basis of the latter assumption iodides are being given, perhaps empirically. As the mother's mental condition, as well as her neurological condition, are being studied; and, as she will remain hospitalized for some time, we will have an opportunity to observe the child daily. The case is an unusual one, the interest lying chiefly in the outcome as to the child's mentality.

Clinical Comment

For this issue, JOHN P. KENNEDY, M.D.

Charlotte, N. C.

AVOIDING REACTIONS IN INTRAVENOUS MEDICATION

Intravenous medication is coming into more and more common use. Improvement

in the technic and skill of the average physician due to oft repeated venupuncture is making the technical side of the procedure more simple all the time. The pharmaceutical houses are making up an increasingly large number of drugs in concentrated solutions. This ease of administration, combined with the prompt and at times spectacular results obtained, has given the physician an extremely useful and gratifying method of drug administration. With the technic so standardized a great majority of intravenous injections pass by without mishap when the usual care is taken. Frequently, however, with the best technic a reaction follows an intravenous injection. This reaction may range from a slight flushing of the skin or a sense of fullness in the head, to a severe chill followed by a high fever. At times the reaction may be due to the medicine injected, especially one that contains a foreign protein. However, not infrequently a severe chill follows an injection of such an innocuous medicine as sodium chloride. Recently some light has been thrown on the cause of such chills and it is well to know how to avoid them.

Recently Dr. Blackfan, Professor of Diseases of Children in Harvard, has called attention to the finding that reactions may be due to the use of new rubber tubing. This reaction may be avoided by soaking the new tube in a weak alkaline solution 24 hours, followed by a weak acid solution 24 hours, this followed by cold distilled water 12 hours.

A second cause of reaction is the effect of the glass container on the water after standing for some time. This may be avoided by using only pyrex glass for solutions intended for intravenous use.

North, working in Eliason's clinic has shown that another frequent cause of reactions is to be found in the distilled water used in making the solutions. He has found that water from certain sources, particularly river water, contains metabolic products of bacteria which were present even after distilling. In order to avoid this he advises that a filter be placed in the still. He also states that after the water is distilled bacteria can continue to multiply and liberate metabolic products. This may be avoided by sterilizing the water as soon as it is distilled and keeping it sterile until used. Water that has been distilled through a filter, sterilized immediately and

kept sterile in a pyrex glass container may be used without fear of a reaction from this source.

There are other causes of reaction such as the temperature and quantity of the solution and the rate of injection. Hendon believes that the rate of administration is very important. He gives large quantities of 10 per cent glucose at the rate of 200 c.c. per hour over a period of several days with no reaction. He ties a silver and gold plated cannula in the vein and gives a continuous flow of solution directly into the blood stream. To this he applies the term, venoclysis, and gives physiologic and therapeutic solutions to a variety of patients who cannot take food or water by mouth.

It seems hardly necessary to say that only distilled water should be used in making intravenous solutions, yet in the past year in a hospital in this State tap water was used in preparing glucose for intravenous use—and it resulted in the death of the patient! It may not be amiss to call attention to the fact that distilled water given in the vein by mistake in place of saline has been known to cause death as reported by Babcock as occurring in a Philadelphia hospital several years ago.

Hospital authorities cannot be too careful in the preparation of intravenous solutions. They would do well to see that new tubing is properly treated, that the water is doubly distilled through a filter, that it is sterilized immediately and that it and other solutions are kept sterile in pyrex containers.

—505 Professional Building.

PITUITARY HEADACHE

(Mayers, L. H., in *Endocrinology*, Sept.-Oct., 1930)

Pituitary headache occurs only in women. We have never observed in men any type of headache that is in the least amenable to pituitary therapy. Pituitary extract, by injection, is the only effectual remedy. Pluriglandular therapy is of no avail. The use of thyroid extract is contraindicated. The characteristic menstrual dyscrasias associated with pituitary headache are subject to incidental correction by means of pituitary therapy administered for relief of headache. They require no direct attention.

Tri-State President's Column

W. B. Lyles, M.D.

This is my last official communication to our Fellows through the pages of our Journal, and I wish to take this opportunity to express my appreciation to our most efficient Secretary for his coöperation and untiring energy in our efforts to make the Richmond meeting a real success.

If we are to judge by the enthusiasm manifested by many personal letters from our Fellows, offering their support and expressing their intentions to attend, our hopes will be fulfilled. Our Secretary tells us more interest is being shown in the approaching meeting than there has been in advance of any recent meeting. This we construe to mean a growing desire on the part of every loyal member to support and accept the many good things the Tri-State has to offer.

Your program will reach you within a few days: it is unusually attractive and should be of special interest to the general practitioner.

The clinic cases will be some of the usual every-day problems that confront the general practitioner. These clinics will be conducted by able men from our own ranks as well as by invited clinicians. All these will give every one of us an opportunity to increase his knowledge.

In looking over the program you will observe the splendid personnel of the Fellows who are to present papers. Many of them you know well, and their ability to impart knowledge.

It is refreshing to note the well balanced program by men from each of the three states.

"The better the day, the better the deed." Remember the meeting opens on Monday instead of Tuesday. One working day will be saved by traveling on Sunday, two days at the meeting and back home Wednesday.

Remember the dates, February 16th and 17th.

Headquarters—The Jefferson.

"Richmond, we are on our way."



SOUTHERN MEDICINE AND SURGERY

OFFICIAL ORGAN OF { Tri-State Medical Association of the Carolinas and Virginia
 { Medical Society of the State of North Carolina
 JAMES M. NORTHINGTON, M.D., *Editor*

Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
CHILDREN'S CLINIC GROUP	Black Mountain, N. C.	} Pediatrics
CHILDREN'S HOSPITAL GROUP	Charlotte, N. C.	
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
EYE, EAR & THROAT HOSPITAL GROUP	Charlotte, N. C.	Eye, Ear, Nose and Throat
THE BARRET LABORATORIES	Charlotte, N. C.	Laboratories
O. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	Urology
ROBERT W. MCKAY, M. D.		
J. D. MACRAE, JR., M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Therapeutics
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology
VARIOUS AUTHORS		Historic Medicine
JAMES ADAMS HAYNE, M.D.	Columbia, S. C.	Public Health

Offerings for the pages of this Journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This Journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

PAY DUES

1. *Tri-State Fellows who have not paid up to March 1, 1931, will please remit at once to the Secretary-Treasurer.*

2. *Dues are payable in advance. You will save your Association expense by paying dues for the period March 1, 1931—Feb. 29, 1932, by the same check or at the Richmond meeting.*

THE LATEST CHAPTER IN THE CASE OF DR. HAYES

'Tis not in mortals to command success,
But we'll do more Sempronius,—

We'll deserve it.—ADDISON'S *Cato*, Act 1, Sc. 2.

Last April's issue of this journal carried an editorial, *The Case of Dr. Hayes*. For the benefit of those who did not or do not have access to that issue, it is here reproduced in part:

On March 2nd, Dr. R. B. Hayes, of Hillsboro, summoned to appear before the Chairman of the North Carolina Industrial Commission, sitting as a

Court of Record at Effland, N. C., to give testimony involving a professional opinion, repeatedly declined to so testify unless he was qualified by the Court as an expert witness, and for such refusal he was adjudged to be in contempt of the Court and sentenced to ten days' imprisonment in the county jail, a few days' interval being allowed before starting serving the sentence. Two days later the Durham-Orange Medical Society, at a called meeting, resolved to support Dr. Hayes in his stand, if necessary, to the extent of employing counsel in taking the case to the State Supreme Court.

The Mecklenburg County Society promptly took similar action, and so did Buncombe. Our information is that the societies of Alamance, Caswell, Cleveland, Davidson, New Hanover, Johnston, Gaston, Person, Surry, Wake, Union, Avery, Wayne, and the Catawba Valley Society—made up of doctors of Lincoln, Catawba, Burke and Caldwell—have done likewise.

On March 24th, the President of the State Medical Society, his councilors and a number of other doctors of the State, met with the Industrial Commission. The Chairman, Major M. H. Allen, read to the meeting the record of the hearing held at Effland, prefacing this with the reading of some

previous correspondence between Dr. Hayes and the Commission. In this correspondence there was a letter from Dr. Hayes which, though neither profane nor vulgar, contained intemperate expressions; however, a reply dictated by Major Allen was of such a tone, in the opinion of many (and probably all) of us, as to offset Dr. Hayes' letter and leave the account balanced. However that may be, the record of the hearing, as read by Major Allen, shows unmistakably that Dr. Hayes was sentenced to jail for declining to testify as an expert witness unless and until the Court (Major Allen) recognized and "qualified"—in the legal phrase—him as an expert witness. This is further proven by the provision that he could "purge himself of the contempt" by abandoning his position and giving his opinion.

Having been in court on many occasions when doctors were to testify to professional opinions and always having seen these doctors unquestioningly qualified as experts, we asked Major Allen: "Is it or is it not the custom in the courts of North Carolina for the Court to qualify as an expert any doctor who is called to give testimony involving a professional opinion?" Major Allen answered, "It is." He offered no explanation why he refused to follow the custom in the case of Dr. Hayes. Does this mean that a doctor is to be qualified or refused qualification as an expert witness on the caprice of the individual specimen of the *genus homo* called "Judge" before whom he is haled? And that a doctor who declines to testify unless he is accorded the same treatment as is accorded doctors customarily may be sent to jail? If that be Justice, it is plain why she carries the *sword* of Vengeance in her powerful right hand, while the weak and uncertain left is deemed ample for holding the *scales*.

[Quoting from the Greensboro *News*' discussion of this case]: "Speaking of standing by a brother regardless, the legal profession surpasses all others. It is the rule—and the exceptions only prove it—that when a lawyer is charged with a violation of the law his legal brethren will flock to his side and stand by him without any reference whatever to the character of his offending?"

Major Allen said in the presence of at least 20 doctors that it is the custom in the courts of North Carolina to qualify as experts all doctors called before the courts to testify on professional matters. He offered no reason for his refusal to follow this custom.

According to the newspapers an Examiner of the State Industrial Commission held a hearing on April 2nd, before which a number of doctors were summoned. One of these was Dr. Frederick R. Taylor, of High Point. We addressed a postcard to Dr. Taylor on the back of which was written:

"I see by the papers that you appeared before the State Industrial Commission April 2nd. Please write me right away whether or not there was any hesi-

tancy about 'qualifying' any of the doctors as experts before they were asked to testify."

Promptly came the answer:

"I same no hesitancy. Someone started to ask if I was an expert and the commissioner interrupted him by stating that I was. He gave us every consideration."

Our attitude toward expert testimony is the same whether the one supplying the expert opinion be a doctor, an engineer, an electrician, a lawyer or a newspaper man. A doctor is and should be equally liable with any other citizen to be summoned to appear in court and testify to facts within his knowledge of any case at issue *as a citizen*, and for this is entitled to the same witness fees as any other person. When a doctor is summoned to court to give his professional opinion he should be qualified as an expert and receive compensation as such, just as a civil engineer should be qualified as an expert and so compensated when he is summoned to testify as to whether or not a bridge which has fallen in was properly constructed.

It is fitting to here make grateful acknowledgement of the fact that the Greensboro *News* and the Raleigh *Times* habitually manifest a disposition to espouse the causes of doctors.

The Raleigh *Times* of January 28th has this to say:

We register an unofficial dissent from the ruling of the Supreme Court. As a citizen any doctor is liable to be called as a witness to anything he may have seen, to any transaction to which he may have been a party, as any other citizen is liable. But when he is asked to come in and explain in detail, out of his store of special knowledge, just how a gent was injured, where in his system eggs were busted, how he was short-circuited, and in addition tell professionally his opinion of the probable effects of these calamities, we are asking for something for which we should pay—seeing that the witness himself has paid all along the route for such ability as he has to answer such questions intelligently. Before he got into politics Herbert Hoover had a tremendous reputation as an engineer. Had he been so unfortunate as to witness a gang killing he could have been haled into court and made to testify off the reel. But had the question concerned the feasibility of a great dam and he had been desired as a witness, he would have been amenable to the law, but he would have been within his rights in demanding payment for his time in accordance with the value he placed upon it.

Doctors have a minimum investment of something like \$10,000 in education. They are at great expense in equipment of their offices. Their overhead of charity practice is enormous. Their time, their labor, their special knowledge constitute their means of

sustenance. Doc Hayes made a bold venture in assertion of what he considered rights under these circumstances. He defied the head of a department vested with quasi-judicial rights. He got in wrong under Supreme Court construction of law.

Hereafter every doctor so unfortunate as to attend the victim of an accident must donate his time at demand of the State to go into technical detail concerning something that is peculiarly within his field of special knowledge.

The only point in the case as it went to the State Supreme Court, so we understand, was whether or not the Commission is a court. We doctors, had not questioned that it was a court. We asked only that it be a Court of Justice, and not "a place where Justice is dispensed with."

Oddly, while this was being written, on turning to Clark's Column in the Greensboro *News* of January 29th, this met the eye:

The judicial pension was put on for retired judges in consideration of emergency work, it being held at the time there was no other way to secure emergency judges. Emergency judges by appointment of the governor have since been provided and that need is met without utilizing retired judges. But, notwithstanding the excuse for the judicial pension was eliminated, the pension continues. It is a special award to a preferred class no more entitled to it than other civil servants who have served for much less. The judicial pension is unjustified in any aspect.

But amid all the lamentation about salary cuts and appropriation cuts, and the clamor for reduced taxes, no legislator has thought to abolish the judicial pension. Which seems to mean that no matter how pressed the State may be to carry on, no matter if the allowance for food and care of inmates of charitable institutions has to be cut beyond safe limits, the State is able to pay a pension to a preferred class of civil servants and they must have theirs no matter if State wards, unable to care for themselves, go on half rations. The judicial pension is sacred; touch it not.

We make no comment on the decision of the Supreme Court by the terms of which the doors of Orange County's jail are now yawning for Dr. Hayes, other than that, most likely, it conforms to the law as made by other lawyers, and that all this is but a new revelation of the urgency of the need for rescuing the State from its present rule: *of* the people, *by* the lawyers and *for* the lawyers.

It seems inevitable that Dr. Hayes will spend 10 days in jail, and there is no doubt here that he will comport himself with the

dignity that befits a gentleman, and that consciousness of the rightness of his actions will amply sustain him. Many another innocent and honorable man has been sent to jail, when jails were far less comfortable habitations than they are now, and come out with no lessening of the honest contempt which caused his imprisonment or of the high esteem in which he had been held theretofore.

There's a good South Carolina tale of contempt of court. A young lawyer making an argument before a carpetbagger ornament of the bench was adjudged to be in contempt and ordered, forthwith, to pay a fine of \$10 in gold; a second lawyer arose and attempted to say something in polite objection and he was likewise mulct; whereupon Gen. Wade Hampton strode forward and planked down two \$10 gold pieces with the remark, "I want everybody to know that I have twice as much contempt for this Court as anybody else present has."

Many and devious are the ways to fame; but in such fame as is built on sending a doctor to jail for insisting that he be dealt with just as all others in like condition had been dealt with before and,—be it noted—have been dealt with since, there can be little of gratification, little in which to take pride.

And Dr. Hayes' serving his sentence will not mean that his is a lost cause.

THE MEDICAL SOCIETY OF VIRGINIA BORN MORE THAN A CENTURY AGO

We read in recent *Transactions of the Medical Society of Virginia* that the society was organized in 1870. Some vague rumors of an earlier Medical Society of Virginia have been heard, but it seems to be assumed that the early organization died a-borning. The first definite information which has come to us on this subject we found in Vol. X of the *Medical Recorder*, Philadelphia, of 1826. In another section of this issue the story may be found, also the constitution and by-laws of the body; all which is interesting and instructive.

It will strike many as novel that our brethren of that time thought to provide by their charter that "admission fees and annual contributions"—what we of a less polite age call dues—were made recoverable in the courts.

We find in the Constitution of the South Carolina Medical Association of 1857, a provision that the Treasurer shall "under direction of the President, sue for all assessments." Incidentally, a graduate of the Harvard Law School is our authority for the statement that Tri-State dues are likewise recoverable in the courts.

The requirements for admission show wise provisions for dealing with difficult problems, some of which have solved themselves, and others, which remain to vex. Very sensibly and justly was it provided that no one could resign in debt to the society. The ordering that those nominated for office "withdraw while the other members are preparing and delivering their ballots" strikes us as a piece of consideration well worthy of emulation. Of the paragraph dealing with special committees the same way be said. The regulation as to taking books from the library is sane and wholesome, and who does not realize that we would do well to think on this one: "After the society is organized, no member shall leave the hall without the permission of the presiding officer." Across the span of a century we waft our benediction to this body of medical gentlemen who wrote it into their by-laws that country members presenting essays should have precedence of members in town.

Immediately following on the by-laws, under Transactions of the Medical Society of Virginia, are two essays, one, a "Dissertation on Chronic Peritonitis," by Dr. John Dove, read May 19th, 1821; the other, "Thoughts on Puerperal Convulsions, and the Efficacy of Ergot in their Treatment," by George Cabell, M.D. Read 21st July, 1821. Further on in the volume are three essays credited to the same Transactions: "An Essay on the Duties of a Physician," by William Tazewell. Read August 18th, 1821; "Treatise on Temperaments," by Dr. James Worrell; and "A Case of Hepatitis," by Dr. William D. Price. Read October 20th, 1821.

We would love to know more of the proceedings of a society which came into being under such favorable auspices, and whose members laid down such wise rules for the conduct of their affairs.

In the volume of the *Charleston Medical Journal* of 1856 we have found this note: "The State Medical Society of Virginia, at

its late annual meeting, were compelled to adjourn for want of a quorum."

That is all we know of the Medical Society of Virginia which was formed in 1821. Very likely some of our readers can contribute much more information. We trust they will; and that the organization of Virginia doctors which started in where the earlier group left off will devise some means of carrying it in their journal that there was a Medical Society of Virginia prior to 1870. Why, the *Wisconsin Medical Journal* for January carries on its front "90th Anniversary Meeting, State Medical Society of Wisconsin, Madison, Sept. 9-10-11"! And Wisconsin was not even a Territory till 1836, nor a State till 1848!

There can be no doubt that many doctors know of other of the doings of this early medical organization which, almost certainly, lived from 1821 to 1856, and probably longer. Let's look into it.

A NEWSPAPER THAT LINES UP WITH DOCTORS

The attitude of newspapers in general toward quacks is kindly in the extreme. Of course, chiropractors *et al* buy newspapers' advertising space and doctors do not; still the average newspaper man has better sense than to entrust his health and that of his family to any of these uneducated pretenders; so would it not be reasonable to expect the papers to refuse to be parties to advertising such persons, either in their advertising columns or their news columns, in such a way as to induce persons lacking in reason—many college graduates are lacking in reason—to lose their lives needlessly?

A few newspapers are conducted by men who do not allow their greed for money or for sensation to influence them to hire or lend their pages to such injurious practices. One of these is *The Independent*, of Elizabeth City, N. C. This paper neglects no opportunity to speak out for reason as opposed to superstition, for training as opposed to inspiration or divination.

Several weeks ago *The Independent* had an excellent opportunity to so handle a sensational statement of two Petersens, man and wife, chiropractors, as to advertise them favorably and injure the cause of medicine. Did Editor Saunders grasp this opportunity?

He did; but not to give aid and comfort to the Petersens.

Under the caption, "Drs. Petersen may leave us very shortly," he carried in bold face type:

"I shall remove my family from this State, if necessary, before I will allow calf blood to be shot into them," dramatically declared Dr. Petersen, local chiropractor, when he asked the Board of Trustees of the Elizabeth City Graded Schools to permit his children to attend school without being vaccinated."

The paper continues quoting the chiropractors:

"That calf blood which is shot into the child for vaccination is injurious to the health of the child. The vaccine virus gets into the blood and causes erysipelas, infantile paralysis and all kinds of brain disease. It is not what the vaccination will do to my children now, but what it will do to them ten years from now, to which I object. I predict that in twenty-five years there will be no such thing as compulsory vaccination. The medical men of the world will come to my way of thinking later. I am just a little ahead of them."

At this point, the female Dr. Peterson broke in belligerently and asked the Board 'Why is it, then, that there is more infantile paralysis where there is vaccination than there is where vaccination is not compulsory?'"

Wouldn't a local William Randolph Hearst have reveled in that? Can't you see the headlines he'd have given it? And the sob stuff to follow? And there was a lot more like it.

But Editor Saunders is not that kind. He comments:

"He is the same Dr. Peterson who, when he first located in Elizabeth City, told the editor of this newspaper that Bright's disease and diabetes are one and the same thing";

and concludes finely:

"So it appears that the Drs. Petersen may depart from our midst shortly. But no one should make martyrs of them and sympathize with them because they are moving away from here because they cannot agree with the beliefs of local authorities. It is about time they were moving on, anyway. The average chiropractor remains in a small town as long as he can make money and can fool his patients. But, as soon as his patients discover the hokum and

bunk of chiropractry, he is ready to pack up and move to another town. Dr. Petersen has been here just about long enough now and is probably ready to seek a new location. He is not being greatly inconvenienced by the ruling of the School Board."

Doctor, have you ever seen anything as intelligent and decent on this subject in a newspaper published in your town—whether a weakly country weekly or a great metropolitan daily?

WHAT IS A CLINIC?

Greek *Kline* = bed

It is only in the past 25 years that the word *clinic* has become a confusing term. Previous to that time it meant, for all practical purposes, the teaching of medicine at the bedside, or, at least, in the presence of patients. There were two other significances of the word, (1) a bedridden person, and (2) a person baptized on a sick-bed, both so rare as not to concern us.

The lexicographers of today, almost without exception, regard teaching which uses the demonstration of the patient himself as a basis, as the essential meaning of the word. However, since in popular usage *clinic* denotes a number of doctors practicing as a group, or the place in which they work, why not give the Greek a rest and turn to the good, plain Anglo-Saxon *bedside*, as a qualifying word before *teaching, problem, symptoms, diagnosis, study*, and so on?

CREMATION AS A CURE FOR THE HIGH COST OF DYING

An item of great importance in the high cost of going through the cycle called living is that of disposing of us after we are dead. No array of figures is needed to prove that entirely too much is spent on funerals and burials, or that most of this excessive cost is brought about by the extortionate charges and conscienceless practices of undertakers who seize on the opportunity to prey on the tender feelings and the vanity of persons in sore distress.

This journal is heartily in favor of dignity and decency in returning our dead to their primal state. Ostentatious display in funerals is disgusting to all who can lay any claim to being civilized.

One of our most reliable periodicals¹ tells

us that 30 per cent of those who die west of the Rocky Mountains are cremated, that the only crematory in the Southern States is at Orlando, Florida, and a lot of other facts of great interest. Many will be astonished to learn that Col. Henry Laurens, president of the First Congress, was the first white man to be cremated in the United States, that this was done in his garden in Charleston, in 1792, and that shortly afterward the remains of his friend, Henry Barry, were cremated at Marion, S. C.

It is shown that tradition, religious prejudice and undertaker's opposition are the three great deterrents to the progress of the practice of cremation.

In London the cost to the city averages \$1 each. In Vienna the cost to one and all is \$6. In California a niche for eight urns may be had for \$75 and this includes a bronze panel.

Our own idea of ideal interment is to be wrapped in a clean sail cloth and buried at sea. Cremation is a close second. The Consuming Fire is much to be preferred to the Conqueror Worm.

Every doctor frequently sees sums spent on burials which should go to the support of widows and the education of children, and widows toiling for years to pay for burying the husbands they supported throughout their lives together.

Any good carpenter can buy walnut boards and make an elegant coffin for \$50 and make handsome wages, but even then, the cost of a plat and tombstone will make the total cost excessive.

A prominent Charlotte doctor offers to join with us in organizing a group favoring cremation, with a view toward making a crematory possible here. This journal is earnestly interested and would be glad to hear from others who are likeminded. Also that such movements are being set on foot elsewhere in this section.

1. *The American Mercury*, December, 1930.

AN OLD SHOE RE-VAMPED

How frequently do we hear or read that the profession of medicine is become commercialized, that we do not measure up to professional standards of doctors of a hundred years ago, that a profession has been debased to the status of a trade! However much of

truth or falsity there may be in the charge, let no one plume himself that he is sounding a warning which will gain for him any credit for originality, when he tells how much more we smack of the shop than did doctors of six or eight generations back.

Some doctors are gravely concerned that we are going to the dogs at a rapid rate because we are practicing medicine on a so much lower plane than did our forebears that they join eagerly in the hue and cry raised by extortionists (turned philanthropists) to the effect that, since independent practitioners have become so commercialized and have so fallen down on the job of caring for the health of the people, the people must look for health salvation to agencies which they have set up and to doctors in their employ.

There's nothing new in the shedding of these crocodile (and maybe some genuine) tears about the low state of medical practice.

Before us is a copy of a book which belonged to our great-great-grandfather, and probably to *his* grandfather. It is the

Pharmacopoeia Officinalis & Extemporanea

OR A COMPLETE

English Dispensatory

IN FOUR PARTS

**The Ninth Edition, Much
Enlarged and Corrected**

By JOHN QUINCY, M.D.

LONDON:

Printed for J. OSBORN and T.
LONGMAN, at the *Ship* in *Pater-*
noster-row, MDCCXXXIII.

From SECT. XIV, "Of Waters," p. 241,
we quote:

Pliny tell us, that those Waters are condemned in the first place, which when boiled do encrust the sides of the Vessels: and that our Well-Waters do this, no body who looks into the Tea-Kettles of our Gentlemen, can be ignorant. And indeed in *antient Times*, when *Physic was more a Science*, which is now more a Trade [Italics ours.—Ed.] as that part of it which relates to Diet was more carefully study'd than it is now-a-days; so this point particularly, of

which we are treating, was of so great moment that Hippocrates, who wrote the best Book on the Subject that ever was published, has in a great measure accounted not only for the Disease, but even for the Temper and Disposition of the People of several Countries, from this difference of the Waters with which Nature has supply'd them.

As will be seen this book was printed in 1733, just two years short of 200 years ago.

How much like the lamentations of our own times it sounds! Does this not give occasion for a *sursum corda*? Since, despite this fall from its early high estate, Medicine has survived these two centuries, all the time "increasing in wisdom and stature and in favor" in the words of Doctor Luke, may we not lift up our hearts?

DEPARTMENTS

HUMAN BEHAVIOR

JAS. K. HALL, M.D., *Editor*

A THOUGHT-PROVOKING REPORT

Although I have not yet read in verbatim detail the report lately submitted to the President of the United States by the Law Enforcement Commission under the chairmanship of Mr. Wickersham yet I am obliged to pre-conclude that the work of that intellectual group of citizens constitutes a genuine contribution to the civic thought of the nation.

The important part of the life of that body lies in the evidences of its investigative activities: the interesting feature of the report lies in the pronouncements of the individual members of the body. There has been some criticism of the Commission because of its failure to speak in one voice; to reach a unified conclusion; to make pronouncement either in favor of national aridity, on the one hand, or in favor of the free, individual use of alcohol as a beverage, on the other hand. But the highly individualistic expressions of the members of the Commission are most pleasing to me, and for more reasons than one or two. No one who has any intelligence will permit himself to believe that any group of mortals, however highly intelligent, well-trained, and dispassionate, can evolve the solution of any real problem. Mere mortals lack the intelligence and the experience necessary to enable them to perform such a function. No problem, so far as I know, has ever been solved. Not long before my own life began, men killed each other in large numbers and destroyed an immense amount of property in an effort, for one thing, to abolish slav-

ery; but there is more slavery in the United States today, perhaps, than there was prior to 1860. Man has been trying to do something about slavery ever since he became able to think altruistically about his fellow; and there has been distressful concern about the bad physiological effects resulting from the excessive use of alcohol almost as long; but mankind, in the mass, still lacks the wit and the willingness to solve forever this latter so-called problem.

Attempts of one individual to project into the constituent units of society his own attitudes and his own pattern of behavior have generally resulted in failure. That is well. If any individual succeeded in such a projection-effort all social life would become a lamentable level of appalling, stereotyped standardized thinking and conduct. The only feature of life that makes daily existence tolerable is the individual's early-morning hope that during the day he may have the good fortune to encounter some person so unusual as to do his own thinking and to behave himself in his own way, regardless of the neighborhood pattern. But those who have been most vocal in projecting their thoughts about the so-called prohibition problem are not in favor of individualistic thinking or behavior. The arid and fanatic ecclesiastic, by some strange alchemy, would make the weakest alcoholic fluid a demoniacal potion; the person who longs for the old days of the guzzling saloon would have alcoholic drinks to become again as plentiful as water.

The judicious person, if there be such, knows that Absolute Evil resides in the Devil only; but that destructive potentialities abide in this thing and in that—in water, soil, fire,

food, salts, opium and various other substances and agencies.

The Wickersham Commission has succeeded in doing one terrible thing. It has placed upon the American public the necessity of doing some sound individual thinking. Little such individual activity has lately been engaged in by our citizenship. There are fairly definite reasons for the belief that behavior is largely a matter of imitation: children "catch it" from their parents, their teachers, and their elders in general; but conduct can scarcely be instilled into any person, either in childhood or in adulthood, by an agency so impersonal and so far away as "the government". Children should be taught and should be given the opportunity to observe that alcohol, like many other useful substances, is a poison, and that its vicious or reckless use may result in physical and in mental deterioration, and ultimately in death. But neither the President of the United States with all his puissance nor any of his commissions with all of their intelligence can develop individual character nor successfully formulate individual conduct. Within limitations, man must fabricate himself out of his own being and make himself the master of his own fate. Government, it is true, is man-made, but man cannot be government-made. Guardianship of the portal to the gastro-intestinal canal must be individualistic, not governmental.

The roads leading into Washington have for many years felt the shuffle of too many feet. Every mortal feels the need occasionally to go into the wilderness and to be alone with himself. The chief service rendered by the labors of the Wickersham Commission places emphasis upon that necessary and solemn duty.

UROLOGY

*For this issue, JOHN W. FISHER, M.D.
Evansville, Indiana*

THE DIFFERENTIAL DIAGNOSIS OF HEMATURIA

Perhaps the most dangerous symptom of disease of the urinary tract is the passage of bloody urine. The patient is usually justly alarmed, and reports promptly to his physician. The latter should take the matter equally seriously, as hematuria is in most in-

stances an indication of grave genito-urinary pathology.

In my experience, the most common condition causing grossly bloody urine is severe, acute cystitis. When the mucous membrane of the bladder becomes inflamed and engorged, and urination is frequent and painful, it is only natural that bleeding should take place, even in the absence of ulceration. The diagnosis of acute cystitis should be made by a history of recent onset of urinary frequency, burning and tenesmus, and the presence of pus and bacteria in the urine in addition to the blood. We must also bear in mind that gonorrheal cystitis in either sex is especially apt to cause bleeding.

Another frequent cause of hematuria is renal, ureteral and vesical calculi. This bleeding is often very slight and can be recognized only by microscopic study of the centrifuged sediment; it may be rather profuse, especially when large stones are present in the bladder. The symptoms are usually quite characteristic, although pyelitis, urinary tuberculosis and cystitis may give rise to identical complaints. The diagnosis of urinary calculi is made by the x-ray, and by cystoscopy and pyelography.

Urinary tuberculosis is an important cause of hematuria, which may be small or large in amount. The symptoms may be quite characteristic, but more often are indefinite. Repeated urinalyses and careful cystoscopic study are essential for the diagnosis.

Perhaps the most important cause of hematuria is renal or vesical neoplasm. Bleeding which occurs without apparent cause and without other symptoms is likely to come from a tumor of the kidney or bladder. The former are almost always malignant, but if the diagnosis is made before metastasis has occurred, nephrectomy may lead to cure. Bladder tumors are benign and malignant, in about equal proportion. Cystoscopy is essential in the diagnosis of vesical neoplasms and renal tumors can only be diagnosed early by pyelography.

Benign and malignant tumors of the prostate may also cause hematuria. This is a distressing and dangerous symptom, as the bladder becomes filled with blood clots which increase the obstructive symptom and may lead to acute urinary retention. Rectal ex-

amination and, in selected cases, cystoscopy are necessary in the diagnosis of prostatic tumors.

Injury to the kidney, ureter, bladder, or urethra by blows, crushing, auto accidents, or firearms are also frequent and serious causes of hematuria. These usually require x-ray pictures to rule out fractures and can only be properly cared for in a hospital. As a rule, immediate operation is necessary to prevent extravasation of the urine, with its very serious effects.

Other less frequent causes of hematuria include acute nephritis, polycystic disease, hydronephrosis and essential hematuria. Leucemia, purpura, scurvy and angioneurotic edema and some acute infectious diseases, notably smallpox and yellow fever may also cause hematuria. Certain drugs and other chemicals, especially turpentine, may cause urinary bleeding.

In conclusion, it will be seen that all conditions causing hematuria are serious, and most require special procedures for their diagnosis. These should be made promptly, as the diseases are often rapidly progressive, and delay may rob the patient of his only chance to get well.

NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*

JUVENILE HYSTERIA

The case to be described is that of a girl, aged 12½, who was first seen in consultation in July 1930. The history is as follows: Early in the spring of 1930, she had suffered from earache; this persisted for two or three days, and although no definite bulging of the drum was seen, it was opened and a small amount of serum exuded. The ear did not improve and within a few days the child complained of severe pain in the mastoid region. She was taken to Charlotte to a competent aurist, who after a thorough examination including x-ray, decided that there was no inflammatory process present and she was returned home.

She seemed to improve and went back to school, but complained from time to time of pain behind her ear, and would wince and cry out if the area was palpated. About a month after she returned home, while in a picture show, she suddenly screamed out and fell

backwards in her seat with her head bent backward. She was apparently unconscious and remained in this rigid, stuporous state for about 15 hours. During this time, she rolled from side to side in the bed, moved her left hand constantly, and would not open her mouth to talk or take fluid; her eyes remained closed. The next day she was better and able to sit up, talk and appeared fairly normal. She was taken to Charlotte again and examination was negative; returned home and resumed school again. In the remainder of the summer up to the time she was seen by me, she had two more attacks of the same general nature. They gradually became longer in duration. When I saw her, she had been apparently unconscious for 72 hours; she lay in bed with her eyes closed and her head bent grotesquely backward and to the right. When left alone she would generally lie quiet with, however, the right hand being extended and flexed at the wrist with a fairly rhythmic movement. Upon attempts to examine her, she would throw herself around in bed and bury her head in the pillow. There was no recognition that she appreciated what was being said or done to her except for this withdrawal motion.

A thorough neurological examination failed to reveal any abnormal reflexes, and severe pin pricks brought about movements of all extremities. Water poured into her mouth was swallowed; the eye ground examination was negative. A spinal puncture was not done because the examiner could not convince himself because of the bizarre nature of the symptoms and the history, that there was any organic process present. It was felt also that such procedure might elicit a more dangerous reaction; it was also felt that the family did not truly enough appreciate the situation to take any chances.

I suggested that the girl be placed in an infirmary away from her family in the care of a careful and rather phlegmatic nurse. I was informed a few days later that next morning she sat up in bed and chatted pleasantly and normally with the nurse. She remained in the infirmary for a few days and went back home. However, it was not long before she lapsed again into one of these states of apparent unconsciousness. Finally, in October she was brought down to Charleston and placed in a local infirmary under the care of the writer.

She was supposedly in coma at the time she arrived, but in a few hours was conducting herself with reasonable normality. The next day, however, she again became "unconscious", and indulged in breath-holding. This reaction was met with casual suggestive treatment and soon ceased. During the three weeks that she remained under my care she had no more abnormal manifestations.

A careful examination revealed no neurological defect. Basal metabolic tests and calcium estimation were within normal limits; a study of her personality indicated that there was marked retardation in the general fields of emotion and insight. There was no intellectual impairment as measured by the usual Simon-Binet tests. In her whole demeanor, however, she suggested a child of about seven or eight years; her speech at times was lisping and baby-like in character. Her reaction toward routine and to the nurses was that of a spoiled, small child. Any attempt at getting her to understand and realize the situation seemed to be blocked by this naïve childishness. She either did not possess sufficient insight or refused to use it, and no attempts to discuss the matter on a reasonable level succeeded. It was also unfortunate that the parents did not seem to possess any understanding of the personality traits involved and were anxious to place the whole matter on an organic basis. The mother stated to a nurse that she hoped that the doctor would not say that the child had hysteria, because she was perfectly certain that there was some deep underlying cause—like a brain tumor or meningitis—present. Therefore, felling that intelligent coöperation from the patient or the parents seemed unlikely, an attempt was made to control the situation by suggestion. A slight lowering of the calcium rate was, therefore, taken as the basis of argument and the child placed on calcium medication. Strong suggestion was brought to bear upon the patient that this medication would result in the clearing up of her symptoms. When discharged, she was asked to keep in weekly touch with the writer by means of reports of her activity. I am afraid that the measure has met with only partial success; for about four weeks, reassuring letters were received, but following this, I was told by the attending physician that she had had a short spell of unconsciousness.

The future of this child is rather uncertain. Since there is no organic defect present and the intellectual possibilities are good, re-education should be very effective provided the proper environment can be obtained. If, for example, the finances of the parents would enable them to send this child to one of the better types of re-education schools, and from there on to boarding school, I feel perfectly certain that she could be moulded into a reasonably normal individual, but the lack of understanding on the part of her parents, their panicky affection and disposition to regard the symptoms as indicative of organic changes, make the issue very doubtful. It, is of course, true that as time goes on, the patient's own dawning recognition of the incongruity of her reactions may make for adjustment on a more acceptable basis. In other words, she will balk from rendering herself too ridiculous; adolescence and the increasing desire to appear attractive before the opposite sex may also aid in this adjustment. However, the marked infantile regression which she is capable of displaying, points rather definitely to the fact that her measures of compensation are limited. The only real approach is, of course, a rational one, and it has been, so far, unsuccessful, at least in my hands. It may later on be available. Unfortunately, such cases as this seldom make complete and worthwhile readjustment; there may be temporary improvement, but when future difficulties of life come up to her she will probably not be able to meet them adequately, and will revert to one of the commoner types of maladjustment. For instance, she may, in the 20's easily fall into the invalid type of reaction.

One may, of course, argue that the present maladjustment is the sign of a more serious and malignant split in her personality, and that she is even now in the state of incipient precox. This is possible, but to the present examiner it does not seem particularly likely. While the arguments for the reason of this opinion could be elaborated, they would involve rather obscure points and be largely personal, so this case is being reported as a rather marked case of infantile regression in a girl of 12½, simulating some extreme organic disease, and forming a picture perhaps best labeled by the term, hysteria.

ORTHOPEDIC SURGERY

For this issue, W. M. ROBERTS, M.D., Gastonia, N. C.

TREATMENT OF CLUB FOOT

The relatively common occurrence of club foot deformity makes the subject one of common interest both to the general practitioner, who must inevitably see these cases first and diagnose the condition, and to the orthopedic surgeon who invariably is called upon to treat the condition. In an active orthopedic clinic this deformity occurs in about 12 per cent of all cases treated.

The etiology of club foot is still a much discussed question. There has been but rarely opportunity to study the pathology of such cases. R. J. Dittrich in a recent article in the *Journal of Bone and Joint Surgery* states that "whatever observations have been made point to the probability of neuromuscular disturbances, in a certain number of cases." It is a fact that many cases of congenital club foot do show an associated spina bifida occulta. The fact that there is a definite congenital etiological factor in some cases cannot be denied.

The deformity of a club foot is essentially an equino-varus. If the patient is not treated early and walks on the foot for some years there is very often an associated twisting in the shaft of the tibia. The equino-varus deformity simulates the normal attitude in which many infants carry their feet and this at times renders the diagnosis slightly difficult. A normal child can always overcorrect his own foot if the proper stimulation is given, whereas the child with a true club foot deformity cannot do this and carries his foot in the deformed position constantly.

The treatment and correction of club foot is regarded by the layman as a relatively simple operation. This is a belief which should be corrected and should not be instilled by any physician. Orthopedic men generally regard the deformity seriously, well knowing the long battle ahead when treatment is begun, and knowing too well the sharp tendency to recurrence of this deformity, even when overcorrection has been obtained and maintained for many months. The treatment requires patience on the part of the surgeon and hearty coöperation and patience on the part of the parents. Once begun one must look forward to many months of concerted efforts if a good result is to be obtained.

The evolution of the treatment of club foot has gone through many stages. First, the long manipulation, under general anesthesia, in which an attempt was made to fully correct the foot at one sitting, had its vogue. This was followed by various operative procedures such as the Phelps operation and the Oloer and later the various stabilizing operations. The general feeling was that such procedures did not give a good flexible foot and that when the original condition recurred the secondary correction was most difficult. Because of this fact, the trend has generally swung to the slow correction of this deformity by repeated, gradual stretchings in plaster casts. This treatment gives a more flexible and more nearly normal foot. The question is often asked, what is the proper time to begin treatment? The answer is, the sooner the better. Just as soon as the skin will permit plaster casts are applied. In the infant these are usually changed at monthly intervals. The prognosis as to the length of treatment cannot be honestly given as no two cases agree in this particular. When the forefoot adduction and varus have been corrected to a certain point it often becomes necessary to lengthen the Achilles tendon. This is a simple operation quickly performed, without danger to the child. In some instances this is not necessary. The plaster casts must be applied until these feet are overcorrected. The feet are then held in an overcorrected position for some weeks. Following this, shoes with the outside border built up are applied. In some clinics braces are applied, in others the children sleep in their bivalved overcorrected plaster casts.

The case of the older child whose club foot has not received treatment until several years old responds quite well to this treatment also. Repeated weekly wedgings of the plaster casts have also resulted in excellent results in such cases. The necessity for various operative procedures increases with the age of the patient.

Club foot is a relatively common congenital deformity. The deformity is a serious problem from a corrective standpoint because of its general tendency to recur. Every effort should be made to start treatment of this condition as soon after birth as is possible. At that time the soft tissues and bones are more malleable, the changes resultant on weight bearing have not occurred, and the

prognosis for a better and more permanent result can be offered.

GYNECOLOGY

CHARLES R. ROBINS, M.D., *Editor*

RADICAL ABDOMINAL HYSTERECTOMY FOR CANCER OF CERVIX

Recently we called attention to the results from the treatment of cancer of the cervix with radium. The wide applicability of radium as a cure or means of prolonged relief in the treatment of this malady gives it the first place as a therapeutic measure. The writer has felt that in the treatment of very early cancer operation plus radiation would give the most permanent result, and in putting it in practice has had a high percentage of permanent cures. It is discouraging to realize, however, how few of the cases of cancer that develop in ones practice belong to this early or clearly operative group. Nevertheless it could be reasonably hoped that, as a result of the widespread propaganda and interest, more of these very early cases would present themselves, and they doubtless will.

As to the permanent cures from operation, a very interesting report of 75 Wertheim operations, performed by the originator himself, is published by Begouin in *Bordeaux Surgery*. This series of operations covered the period from 1904 to 1918. The operative mortality was eight per cent. He has been able to trace 40 cases. Of these 20 are living and 20 are dead. Of the 20 who are living five were operated on more than 20 years ago; five more than 12 years ago and five more 10 years ago. Using the 40 as a basis he adds the operative mortality to those who subsequently died, and this shows that his permanent cures for a period over 10 years is 43.48 per cent. This is a most remarkable result. He, of course, is unable to report on the 35 cases not traced, and it would be reasonable to infer that many of them died. Also the percentage of cases that were operable must have been small, as this treatment is not applicable to the majority of cases. But in clearly operative cases, that is, the very early, the question arises if the additional risk of operation may not be more than balanced by the better prospect of permanent cure.

EYE, EAR AND THROAT

V. K. HART, M.D., *Editor*

CARCINOMA OF LARYNX NO RESPECTER OF AGE

Despite the advance of knowledge and surgical technique with respect to the larynx, a few pertinent ideas may well be emphasized for the general profession.

Carcinoma of the larynx is always thought of as occurring in middle aged or old individuals. A recent experience shows the error of this hypothesis and the value of routine.

A young school teacher, aged 27 years, presented herself to this clinic for examination for a hoarseness of six months duration. A nasal operation had already been done elsewhere in the hope that it would improve the voice. A growth was seen on the middle third of the left cord. This was removed endoscopically and sent for routine section, as should always be done. A diagnosis of squamous-cell carcinoma was returned. This diagnosis was subsequently confirmed by two consulting pathologists of high repute.

The cord has since been removed in its entirety. This may be done where the lesion is distinctly unilateral with an excellent chance of permanent cure. There is also useful voice afterwards. This is the so-called laryngo-fissure type of operation.

Of course, if there is extensive involvement of the larynx, there is only one procedure and that is total laryngectomy. This necessitates permanent use of a tracheotomy tube, but in recent years a number of these patients have been returned to useful lives with apparent cures.

The reason for favorable results from laryngeal surgery lies in the plan of lymphatic drainage from that organ. It is limited and extra laryngeal metastases occur late. Once the growth is extrinsic, the outlook is essentially hopeless.

Any patient with a hoarseness over six or eight weeks duration should have the benefit of a laryngeal examination.

INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*

ON THE PATHOGENESIS OF GRAVES' DISEASE

We never seem to be able to get to the end of the line. Almost as soon as a problem

seems to have been definitely settled, further research either contradicts or modifies theories previously held; and as our physiological and pathological knowledge increases, we realize more and more the interdependence of various organs in the body and the relative rarity of disease being the product of but one factor.

For some time it has been generally believed that thyroid hyperfunction was the all-important element in the production of Graves' disease. I refer, of course, to the profession as a whole and not to those who are making an intensive study of that disease or to those who are working in physiological and pathological laboratories.

A most interesting paper, bearing the heading of this review, was presented by Dr. David Marine at the meeting of the New York Physicians' Association. In stating his conception of the pathological agents at work in the production of exophthalmic goiter, he says:

"I am entirely in agreement with the surgeons that in selected cases the best available treatment, at present, is a well-appointed partial thyroidectomy. I do not believe this is a rational therapy and am convinced that when the etiology of Graves' disease is fully understood a more rational treatment will be worked out. Twenty years ago it was difficult to get an audience if one stated that the cause of Graves' disease was unknown. Today this is changed. I have long been one of those who believe that we must look beyond the thyroid for the solution of so complex a problem. The fact that controversy still involves every phase of the question of Graves' disease proves how complex the problem is."

(Further quotations from Dr. Marine's paper are so frequent that they will not be specially indicated.—*Ed.*)

Classification has caused a great deal of confusion. It would be much simpler and more accurate in the present state of our knowledge to divide Graves' disease primarily into acute and chronic forms and to divide each of these headings into complete and incomplete forms. This would eliminate such terms as toxic adenoma, adenomatous goiter with hyperthyroidism, thyrotoxicosis, and a host of other more or less indefinite terms.

Opinions as to the significance of thyroid changes have varied from the view that they are constant and specific to the view that they are neither constant nor specific. I hold

an intermediate position, namely, that they are constant but not specific. If one allows for the stage of the disease and the age of the patient, it cannot be denied that hyperplasia of some degree will eventually occur in all cases if not inhibited by iodine or by some other means. The regeneration of the thyroid in Graves' disease is identical with the regeneration of the thyroid following partial removal, and we early came to the conclusion that the thyroid gland is a very labile tissue with a single definite morphologic cycle which can be repeated as often as is necessary in response to stimuli that reduce the iodine store below the critical level. When the iodine store again rises, involution to the colloid state sets in.

The next most prominent feature of the pathologic anatomy of Graves' disease is the hyperplasia of the lymphoblastic tissues—the thymus, spleen and regional lymph glands. This hyperplasia of the lymphoblastic tissues is reflected in the peripheral blood as a relative lymphocytosis up to 60 per cent of all leucocytes. From the experimental standpoint the lymphoblastic hyperplasia looks more like an antagonistic reaction against an excessive thyroid secretion and a compensatory reaction against some suprarenal-gonadal insufficiency. As we have many times pointed out, we believe that Addison's disease, Graves' disease and status lymphaticus are closely related states and that all three are intimately associated with the insufficiency of some secretion of the suprarenal cortex and gonads. In Graves' disease the suprarenals are unusually small.

By experimentation it has been found that in the rabbit and cat with intact thyroid a transient symptom complex can be produced by sufficient but sublethal injury to the suprarenals which closely resembles Graves' disease. The outstanding symptoms are increased metabolism, beginning between the third and sixth days and lasting from a week to several months, myasthenia, regeneration of the thymus and hypertrophy of the lymph glands, increased appetite, increased irritability and hypersusceptibility to drugs. This is only a crude reproduction or glimpse of the natural disease. One obvious reason for this crudeness is that the suprarenal gland is at least a dual gland whose functions are to some extent antagonistic, and in injuring the cortex

we of necessity cripple the epinephrin-producing medulla. Epinephrin is the most powerful activator of metabolism known, and there is a good deal of evidence that this function is not impaired until late and may even be increased in early Graves' disease.

A condition somewhat resembling the experimental suprarenal injuries to which I have just referred occurs normally in newborn infants, namely, the involution of the suprarenal cortex. As you know, the cortex of the newborn infant is unusually large and involution of this hypertrophic cortex begins about the eighth day of extrauterine life, irrespective of whether the infant is a full-term or a premature birth. This involution causes a striking decrease in the volume of the cortex during the next four weeks. We have shown by daily metabolism studies on ten infants from birth to their 35th day, that co-existent with this rapid involution of the suprarenal cortex there is a rapid increase in heat production. Thus the heat production in normal infants has been found by various workers (Benedict, Murlin) to average 1.88 calories per kilogram per hour during the first seven days of life. Then between the eighth and 14th days it rises about 16 per cent.

A great number of glandular products have been used in the treatment of Graves' disease without much benefit. We look upon the effect as further evidence that the suprarenal cortex and sex glands produce an easily oxidizable substance which plays an important role in protecting the individual from Graves' disease, and the loss of which is an important factor in the cause of Graves' disease.

In conclusion Dr. Marine states as follows:

"I would like to point out that while the view that Graves' disease is essentially a thyroid disease still is the prevailing one, and while therapy should still be based on this assumption, I am convinced that a much more fundamental disturbance lies in a deficiency of some function of the suprarenal cortex and sex glands, which either provides another means of promoting tissue oxidations or has to do with the regulatory control of these oxidations. The most outstanding manifestation of Graves' disease is clearly a loss of control over these oxidation processes, and as a result of this there occurs a physiologic attempt toward compensation by an increased production of the thyroid hormone."

A paper such as this most stimulate our thought. It must make us realize that in this, as in so many conditions dealing with glandular organs, whether presenting ducts or ductless, we are still a long way from a solution of the problem of etiology pathogenesis and treatment. The deeper we delve into the realm of pathological physiology the more evident it is that we cannot look upon this body of ours as a group of attached viscera, nerves, bones, muscles and connective tissue, but as a conglomerate whole with almost every component part intimately connected with the working of the entire machine. As the psalmist says: "We are fearfully and wonderfully made"; and the thing that impresses us more and more in the new discoveries of the science of medicine is the wonder of it all.

Dr. Marine's paper will repay earnest reading, not only as an excellent summary of the most recent work in the particular subject that he approaches, but also as an evidence of the philosophical spirit which is more and more taking possession of the minds of our outstanding scientific workers.

Since the foregoing has been written; in fact, only last evening, the editor read an article in *Harper's* for February entitled: Specialists at Large, by Dorothy Dunbar Bromley, a competent New York journalist who has written such other interesting articles as, What Risk Motherhood??; and The Crisis in Nursing. This article is so true and points the finger of scorn so justifiably at many of the members of our profession that it is well worth the attention of every physician. Anything that Miss Bromley writes bears the stamp of authority and should be given attention. The evils that the author mentions are in our midst and are doing organized medicine untold harm. Some of the evils mentioned in this article will be seized upon by the advocates of State Medicine and made thereby a Big Stick. The editor will say nothing more as to the contents of this article for if he did, he might satisfy the curiosity of some who would otherwise read this very excellent exposition of two evils of organized medicine which are preventable and which should be eliminated.

THERAPEUTICS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

ARTIFICIAL DIGESTANTS

We have practically abandoned the use of the old standard artificial digestants, pepsin and pancreatin. Pepsin is useless in an alkaline medium, and gastric digestion is of secondary importance to intestinal. Unless there is a real anacidity, pancreatin is destroyed by the acid of the gastric juice, unless given in enteric capsules, insoluble in the stomach.

In the field of artificial digestants, we do what we comparatively rarely do, employ certain proprietaries, because, in the first place, they seem to be rational preparations, and in the second place they seem to be superior in clinical results to the older preparations. Where a laxative is not indicated, we usually employ caroid and charcoal tablets. The caroid acts as an artificial digestant equally well in an acid or alkaline medium, and the charcoal does seem to have some action, perhaps absorptive, in lessening discomfort due to accumulation of gas. Where a laxative is indicated with the artificial digestant, caroid and bile salts have given good results, containing in the tablets, in addition to the ingredients named, some extract of cascara and phenolphthalein. The tablets also contain a very small amount of extract of *nux vomica* and oleoresin of capsicum. The last named drug is perhaps put in for a supposed carminative effect, though it seems a little superfluous.

We are not in the habit of using the liquid preparations of caroid, feeling that it is less active after being in solution for a long time, and also believing that the liquid preparations are at times likely to upset the stomach, a drawback that we have not observed in the tablets.

The usual dose of caroid and charcoal tablets is two or three tablets after meals. The caroid and bile salts tablets may be given in as small dosage as one tablet daily, or as large as 2 tablets three times a day, according to indications.

Perhaps the greatest drawback to the use of these preparations is that their manufacturers put out another preparation that seems to us to be in the definite nostrum class—cellasin—much touted as a remedy for diabetes. We would be much gratified if the

company would take this off the market.

Lest anyone might feel that we are descending from the sublime to the ridiculous, in shifting from certain official preparations to the proprietary digestant preparations discussed, we might add, that not only have we occasionally taken these preparations ourselves, but the first time we ever took caroid and charcoal, it was when we had a prescription filled that had been signed by Dr. Alfred Stengel, Professor of Medicine in the University of Pennsylvania.

SURGERY

GEO. H. BUNCH, M.D., *Editor*

MECKEL'S DIVERTICULUM

In 1808 Meckel described a congenital defect of the small intestine resulting from the persistence of a portion of the vitelline duct which in the fetus marks the end of the foregut and the beginning of the hindgut and which normally disappears at the end of the fourth month of fetal life. The anomaly is found in about 2 per cent of individuals and is a true diverticulum, being identical in structure with the gut wall. It usually springs from the terminal ileum but may come off as high as the jejunum. It comes from the portion of the gut opposite the mesentery and is always single. It varies greatly in length but is at the base nearly the same size as the intestine. The distal end of the blind pouch as a rule lies free in the abdominal cavity but may remain attached at the umbilicus. Indeed, Green says when there is a congenital deficiency or absence of the hindgut that the intestine may empty by way of a patent diverticulum and the anus be at the navel.

Meckel's diverticulum is of practical interest to the surgeon. Halstead thinks that it is the cause of 6 per cent of the cases of intestinal obstruction. By its contractility it may become invaginated and cause intussusception which is peculiar in that blood may not be found on rectal examination because the congested diverticulum may form a plug in the intestine. When the distal end is attached the diverticulum may act as a band and mechanically obstruct a loop of small gut or it may cause volvulus.

Acute diverticulitis develops with the classical symptoms of appendicitis—pain, nausea, general abdominal tenderness, rigidity, distention, fever and leucocytosis. The tender-

ness may localize on the left side, but this is too uncertain to be of much help in differentiation. Perforation is apt to occur and because of the thin wall and large lumen of the diverticulum causes such overwhelming contamination that general peritonitis usually follows.

Ulceration is not uncommon and recent microscopical study of diverticuli found at operation and at necropsy has revealed the interesting fact that gastric mucosa may be found as islands, or may completely line the diverticulum. It has pyloric, Brunner's and fundus glands which secrete hydrochloric acid just as in the stomach so that the ulcers of a diverticulum are peptic ulcers and have the history and the symptoms of peptic ulcers. They are more often found near the margin of the gastric mucosa or about the base of the diverticulum and are characterized by intermittent pain, repeated hemorrhage and by perforation. Ochsner reports from the literature 21 cases of Meckel's diverticulum in which gastric mucosa has been found and 12 cases of ulcer in which the mucosa was not examined: 75 per cent of the cases were in infants and children and 60 per cent of the ulcers had perforated. The passage of blood by rectum was noted in all but 5 of the 33 cases.

Two theories are advanced to explain the presence of gastric mucosa in this pouch which arises from the small intestine. One is that islands of gastric mucosa have become misplaced and develop here, another that as the fetus develops the embryonic parent cells of the gastro-intestinal tract may from environment and stimuli develop into any type of adult cell. Through abnormal stimuli abnormal development occurs.

Pediatricians and internists should consider bleeding peptic ulcer in a Meckel's diverticulum as a cause for the severe secondary anemia of children. If blood is persistently found in the stools and no explanation of it can be learned a blood transfusion should be given and the abdomen explored. After bismuth has been given an x-ray study of the gastro-intestinal tract may show the diverticulum.

The treatment of the various pathological conditions found in Meckel's diverticulum is its surgical removal. It may never cause symptoms but is always a potential menace and when found at operation should be re-

moved if the condition of the patient warrants.

RADIOLOGY

J. DONALD MACRAE, JR., M.D., *Editor*

LOCAL TISSUE EFFECTS OF SHORT WAVE RADIATIONS

By short wave radiations I refer to the gamma rays from radium and x-rays from the tube excited by a high voltage current. Cancer therapy has benefitted so much in recent years from x-rays and radium that they have taken a place along with surgery as the recognized measures for combating this disease. The effects of x- and gamma rays on living tissue both normal and pathological can be easily observed grossly. The interesting and difficult question however is, how are the changes brought about? Considerable work has been done in observing and describing the gross changes, from both the laboratory and the clinical points of view. A presentation of some of the observations and views of workers in this field would seem to be pertinent in a discussion of cancer as a general subject.

A few words about the physics of short wave radiations might be of interest at this point. The Angstrom unit is used in measuring x-rays and gamma rays as well as ultra-violet and visible light wave lengths. This unit is $1/10,000,000$ of a mm. X-rays consist of a bundle of waves of various lengths. Those used in therapy vary roughly from 0.5 to 0.06 \AA units. The effective wave length used in superficial therapy is about 0.16 \AA . The monster x-ray tubes that we read about now operate on 500 and 1000 Kv. and deliver waves as short as 0.02 and 0.01 \AA . These waves are about as short as the gamma waves of radium used in therapy. The effective wave length from x-ray tubes varies with the voltage and the filter used. The filter cuts down the total radiation reaching the skin by stopping or absorbing the longer waves. The remaining waves are more penetrating. Thus they pass through the superficial tissues and exert their action on the deep tissues where they are stopped.

The gamma rays from radium are in the order of 0.08 \AA and shorter when heavy (1 or 2 mm.) platinum filtration is used. Beta rays from radium are of very slight penetrating ability and are used in only the most superficial therapy when the underlying

tissue is very delicate, as on the eyeball.

As has been stated, a characteristic of waves of different length is their different penetrating ability. The shorter ones are able to pass through the densest substances while a large percentage of the rays that leave the target of an x-ray tube are so long that they are stopped by the glass wall of the tube itself. These waves have the ability to ionize air and other substances. This property is used in measuring the output from x-ray tubes and radium preparations.

X-rays and gamma rays exert their effect only when they are stopped. At this point energy is liberated from the material which stops the ray. The chemical effect produced is used in making x-ray pictures. It is fundamentally a chemical and physical action which produces the biological effect.

The biological effect of x-rays has been observed in many different ways. Wood and Packard working with fruit fly larvae have found that the effect of radiation is independent of wave length, being identical for the same quantity of x-rays or Grenz rays (2.0-3.0A). It must be remembered however that they were working with a thin layer of biological material (the fly larvae). Therefore the clinical results will vary when a large mass of tissue is irradiated for the shorter rays will reach some tissue to which the longer cannot penetrate.

The most generally observed biological reaction is the erythema resulting from a full skin dose. Microscopically there is capillary dilatation and later pigmentation. Desquamation and tanning are observed grossly. If the dose is larger or repeated often enough skin atrophy, scarring, and telangiectasis result as a delayed effect. Still larger doses so devitalize the skin that ulceration is produced, generally slow in healing.

Pohle and Bunting, working with rats, found that the normal skin reacted to x-rays and Grenz rays independently of wave length but depending on the size of the dose. (Here again a thin layer of biological material was used). The histological changes observed were as follows: In the epithelium there is swelling and vacuolation of the cells. The capillaries dilate and lymphocytes appear in the epithelium and chorium. Later the epithelium becomes thin and mitotic figures appear. Some nuclei are swollen. Fibroblasts appear in the chorium. The vessels are dilated and

the walls thickened. Large doses give rise to ulcers, marked fibrosis and permanent thinning of the epithelium.

Other workers (Akaiwa and Takeshimo) observed the changes from irradiated popliteal lymph nodes of rabbits. They found three general periods of changes produced. First there was a swelling of the node, nuclear disintegration and decomposition of germinal centers. (A selective action on the most rapidly multiplying cells.) Accompanying this some of the phenomena of inflammation are seen, cellular infiltration congestion and exudation. This evidence of regeneration is not seen following large doses. The middle interval is devoted mainly to phagocytosis and clearing up of debris. The last stage is fibrosis of the lymph node. These workers also observed a similar though slower and less marked change on the control side.

Strangeways and co-workers (quoted by Canti) studied the effect of radiation on tissue cultures. They found an immediate cessation of mitoses. In 3 or 4 days a return of mitoses in large numbers and abnormal forms. In 8 or 9 days mitoses disappear for the second time. Cell debris is removed by phagocytosis and the new growth is replaced by fibrous tissue. Mummification occurs rarely when the new growth is not absorbed. Canti found in tissue cultures of normal tissue and Jenson rat sarcoma that radiation had a selective action on the new growth.

Radioresistance and radiosensitivity of various malignant tumors has been given considerable study. Ewing has done a great deal of work along this line. He states that resistance is generally greatest in those sarcomas with the more adult type of stroma. Even in the resistant forms, however, treatment is worth while for it may prevent metastasis by producing a sclerotic fibrous or osteoid capsule about the tumors.

Carcinomas are resistant in inverse proportion to the amount of anaplastic, and in direct proportion to the desmoplastic, reaction which they excite. He believes that the effect on the blood vessels (swollen walls and obliteration) is an important factor in controlling tumor growth by irradiation.

There is considerable discussion as to whether the majority of the effect from radiation is a devitalizing of the tumor or a stimulating of the defense of the host. Without giving the various opinions I might say that



as a Preliminary to Anesthesia

THE administration of Pulvules Sodium Amytal, Lilly, by mouth, makes possible a judicious sequence of hypnotic and anesthetic very satisfactory to patient, anesthetist, and surgeon.

Pulvules Sodium Amytal, Lilly, are used as an aid in the preparation of the patient for anesthesia to be induced by either local or inhalation anesthetics.

They lessen the amount of inhalation anesthetic required for complete anesthesia and relaxation.

The amnesia for preoperative events, for anesthesia induction, and for much of the postoperative discomfort, which follows suitable doses of Pulvules Sodium Amytal, is especially pleasing to the patient. As

a rule, there is a reduction or entire absence of nausea and vomiting after the operation. In addition to their use as a preliminary to anesthesia, Pulvules Sodium Amytal, Lilly, are of distinct value in obstetrics and internal medicine.

Pulvules Sodium Amytal may be administered orally or rectally. Each Pulvule of Sodium Amytal contains sodium iso-amyl-ethyl barbiturate, three grains. Supplied through the drug trade in bottles of 40 and 500 Pulvules.

Write for literature

ELI LILLY AND COMPANY
INDIANAPOLIS, U. S. A.

each side has good evidence to support its views. Specific effect on rat sarcoma in tissue culture has been cited. Other workers have found a reduced number of takes and an increased life period in animals which had been irradiated before tumors were transplanted. From this I believe that one could be safe in the acceptance of both views for they do not conflict. However the majority of the effect seems to be upon the tumor itself.

The object in radiotherapy of tumors is to deliver a sufficient dose in the region of the tumor and as small a dose as possible in the normal tissue. The skin effect is the limiting factor in the majority of cases of deep tumor treatment. Such tumors can be approached by several portals about the pelvis, the beam of rays being directed toward the tumor. Thus, for a given dose effective at the tumor the skin effect is kept within safe limits. If a single portal were used the safe skin dose would be several times exceeded. The uterus may also be treated by placing a capsule of radium within its lumen and radiating from within. By this method the skin is not in danger but the bladder and rectum may be damaged if not packed away from the cervix. The therapeutic effect on cancer from radium in the cervix does not extend beyond 3 or 4 cm., so a combination of the two is the ideal method of treating malignancy in this location. This type of treatment applies to deep tumors in other locations too. When a surface growth is to be treated the less penetrating x-rays with light or no filtration are used because their major effect does not extend far below the surface. When the growth is small radium is generally more convenient although the same effect may be generally obtained by the use of x-rays. Certain tumors are best treated by interstitial radiation with radium needles, or gold seeds of radon. The radon seeds may be left in place, for their major activity ceases in about $3\frac{1}{2}$ days.

It has been known for some time that cells undergoing mitosis are more vulnerable to radiation than adult cells. This fact is evidently responsible for the superiority in the results of radium treatment over two or three days, as is used in treating carcinoma of the cervix, over a single massive dose of x-rays. Based on this fact x-ray treatments have been given in fractional doses spread over several days with increased effectiveness.

Thorough irradiation of deep seated tumors requires a series of treatments lasting two or three weeks, treatments being given every day and later two or three times weekly. Such series should be repeated in six to eight weeks in some types of tumors.

Regaud at the Curie Institute in Paris uses small amounts of radiation in heavy (1-2 mm.) platinum filtration and the treatment lasts about a week with only occasional short periods of rest.

Pfahler has developed a radiation technique wherein the skin dose is built up to the saturation point and so maintained by small doses given 2 or 3 times a week. This applies to x-ray chiefly, but can be applied to radium. Such long continued treatments give better results and cause less fibrosis in the tissue for a given total dose than the single massive dose.

A few statistics as to results from radiation therapy of the more commonly treated tumors might be of interest.

Carcinoma of the uterine cervix 5-year Cures
From Mayo Clinic—

All cases operable, inoperable, borderline, and modified	23.87%
Operable, and borderline cases.....	66.66%

From Memorial Hospital—

Favorable (early and borderline cases).....	44.9%
---	-------

Carcinoma of the breast

From Pfahler and Parry—

No gland involvement (surgery alone).....	77 %
No gland involvement (post op. radiation).....	74 %
With gland involvement (surgery alone).....	20 %
With gland involvement (surgery and radiation)	35 %

From Radiumhemmet in Stockholm—

Surgery alone	16.8—25.5 %
Post op. radiation	29 %
Pre op. radiation	40 %

PEDIATRICS

FRANK HOWARD RICHARDSON, M.D., F.A.C.P., *Editor*

TEETHING—IS IT A DIAGNOSIS?

One of the most fearsome of the dark anticipations with which young mothers sometimes torment themselves, is the dread of teething. They have always heard that teething is accompanied by all sorts of grave upsets. According to popular belief, a few months of relative calm are vouchsafed the

Taken from

U.S. PUBLIC HEALTH REPORTS

Sept. 19, 1930

SUMMARY OF MONTHLY REPORTS FROM STATES

The following summary of cases reported monthly by States is published weekly and covers only those States from which reports are received during the current week:

State	Menin- gococ- cus menin- gitis	Diph- theria	Influ- enza	Ma- laria	Mea- sles	Pellag- ra	Polio- mye- litis	Scarlet fever	Small- pox	Ty- phoid fever
<i>July, 1930</i>										
Colorado.....	3	27			174		0	22	9	15
Delaware.....		4			23		0	14	0	3
Mississippi.....	9	43	207	7,430	107	1,390	10	15	5	297
South Carolina.....		71	248	2,205	13	1,240	8	13	1	286
Texas.....	1	51	20	1,336		2	11	36		73
<i>August, 1930</i>										
Arizona.....	1	11	2		37		3	7	1	27
Connecticut.....	3	24	3	3	32		6	31	0	5
Delaware.....		8			13		2	6	0	29
District of Columbia.....	1	13	1		26	1	1	14	0	21
Georgia.....	3	47	34	513	45	59	4	61	3	244
Nebraska.....		19	2		28		12	17	36	20
New Mexico.....	2	32	1	79	14	11	4	6	12	28
Wyoming.....					2		5	15	0	3

YEAST

THE MODERN TREATMENT

In 1925, Drs. Goldberger and Tanner, U. S. Public Health Service, published cures of 26 cases of pellagra with Brewers' Yeast-Harris and advised this product for pellagra cases in doses of $\frac{1}{2}$ to one ounce daily, with due regard to other features of the diet. Brewers' Yeast-Harris is recognized as a specific remedy for this disease.

This same yeast has been widely used by the American Red Cross in combating pellagra in Southern states.

Drs. Goldberger, Wheeler & Tanner state (in Bul. No. 1009 Pub. Health Reports): "... the dry powdered yeast (well dried) keeps well and retains much if not all of its pellagra-preventive and therapeutic activity for some weeks at least. It may be administered in a variety of ways. In pellagra we have, for the most part, given it in ordinary table syrup; less frequently in canned tomato juice, and in milk.

"The beneficial effects of the yeast treatment have repeatedly been recognized by us as early as the end of the second or third day after the treatment has begun—"

The late Dr. Goldberger has repeatedly advocated a "killed culture" of BREWERS' YEAST; since otherwise occasionally with the gastro-intestinal disturbances of pellagra there will be flatulence and discomfort arising which, while not serious, are annoying to the patients.



The **HARRIS LABORATORIES**
TUCKAHOE, NEW YORK

mother of the new born baby, and then, somewhere about the sixth month, appears the spectre of teething, which hovers over the devoted child for the next three years or so.

For the amateur adviser, this myth, teething, furnishes a most convenient diagnosis, which covers a multitude of sins, and which is never called in question. Has the baby a rash? Why, that is a teething rash! Has he a cold? Why, you know babies always get a little cold when they are teething! Has he been restless, crying, in pain? Babies are always restless when they are teething! Does he spit up his food? Stomach upsets are quite common while a baby is teething! No matter what happens to a baby during these three years, teething explains it away perfectly satisfactorily to the many, many folks who have become firmly possessed of this convenient explanation for the cause of all the ills that baby flesh is heir to.

It is easy to see the dangers to which this easy explanation exposes the baby whose mother is satisfied to accept it, either on her own authority, or upon the say-so of older women "who ought to know all about babies;" though, unfortunately, long experience is not always synonymous with knowledge in such cases. The mother who is convinced that teething causes bad stools does not go farther and search for a more logical and convincing cause, like bad milk, overheating, clothing, or improper food. Why should she investigate, and bother to cure prickly heat caused by such inhuman overdressing, if she is firmly convinced that it is quite in the natural order of events for a baby's skin to break out while he is teething? And so one serious ill after another is allowed to run its course unchallenged, and the baby permitted to suffer needlessly, just because a foolish folkway has taken the place of good common sense.

A baby was brought into the clinic, evidently in the last stages of what used to be called summer diarrhea, a severe type of looseness of the bowels, accompanied by emaciation, pallor, clammy cold body surface, and all the signs of impending death.

"When did you first take this child to a doctor?" I asked.

"Just now," was the calm and unruffled response.

"How long has he been sick?"

"Oh, he hasn't been sick at all. He's just

teething. He's been this way for two or three days."

"Do you mean to say that you have let this condition go on untreated for two or three days? Don't you know that your baby is dying?" I shouldn't have said it, but it popped out in my astonishment.

"Oh, doctor," wailed the mother, completely overwhelmed with grief and obviously quite unprepared for the news. "He can't be dying. I asked several women why he acted this way; and all of them said that he was just teething, and that babies acted queerly at these times. It can't be that he is dying. Can't you do something for him?"

Of what use would it have been to tell her that her friends were well-meaning, but that their ill-omened advice had killed her baby?

The baby lived perhaps half an hour from the time it was brought to the clinic! Forty-eight hours earlier, when the mother's natural anxiety was first awakened, only to be lulled into false security by the well-meaning reassurances of ignorant neighbors, something might have been done that would have turned the scale. Teething was no more at fault in this instance than was any other perfectly normal developmental unfolding of the growing body.

Why has teething achieved this bad eminence, among all the causes and the near-causes of infantile disaster? Is there no cause for it? Or is it just one of those ideas that sprang up in the consciousness of the race for no reason that can be discovered? Is it a superstition; and if so, where did it spring from?

It is not so very difficult to see at least a possible cause for the belief that teething can cause almost anything. While it is only the actual irruption that is accused of producing these various ills, there is in addition considerable time before and after when the gum is or may be tender, sore and inflamed. Then we must also remember that there are 20 separate teeth that must force their way through at some time during these relatively few years. So at almost any time there is some tooth either just through, just coming through, just expected to come through, or just suspected of being about to be ready to prepare to come through! Thus there is very little time left free, in which an illness or upset can occur, without coinciding with some notice-

able activity of some one of these many teeth. To the type of intelligence that is satisfied just as soon as it can associate *some* occurrence with every other event the situation offers an ideal soil in which the superstition of teething as the cause of all the baby's trouble, can flourish like the green bay tree.

It would not be fair, however, to give teething an absolutely clean bill of health; to free its record of all trace of harmfulness. It cannot be denied that many a baby has a great deal of trouble with the usually innocuous process of teething. To many babies, this experience is so easy and painless that the mother is amazed when she first discovers the pinpoint of white. This is the ideal situation; and it is not exaggerating to say that it is the average, the quite-to-be-expected course of events.

On the other hand, it is not such a simple matter, in the case of a great many infants and young children. Many of my readers who are still in the stage of cutting their wisdom teeth know that it may be a painful process. The nerves supplying the gums, pressed upon by the erupting points, may give rise to exquisite sensitiveness; and it is not hard to see why this might seriously lower both nervous tone and general physical condition. Fretfulness, restlessness and sleeplessness may result, also drooling or slobbering. It is probably true that things that would be harmless at other times may gain a potency for harm by the lowering of bodily tone.

Teething is never a sound diagnosis to make, nor a safe one, unless and until every other possible cause of trouble has been investigated and found to be innocent.

What should be done for teething? Let it alone in the great majority of instances. The discomfort attending teething is frequently lessened by allowing the child to chew on a piece of hard toast, or dry crust. If the pain is considerable and the mother feels that she must do something, the gum is to be gently rubbed with a pledget of cotton dipped in paregoric. Whether it is actual relief to the child or the emotional relief to the mother associated with doing something for the child, is perhaps problematical.

If obvious symptoms of fever and discomfort that cannot be traced to any other cause

persist for a day or two, it may be necessary to incise the gum over the underlying point. In one case in which a dentist inserted a long, slim scalpel into the gum at a slight distance from the tooth point and cut *from the tooth outward*, the temperature dropped in an hour or so, and no further difficulty was experienced.

It should be remembered, however, that for one such tooth there are thousands that come through with but little discomfort and no need of interference; and hundreds of thousands in which teething is uneventful, as to the health and happiness of the baby. Let us also remember that the changes are all in favor of their being a definite, specific cause for every illness of the baby and that these chances are all against our finding that teething is to be blamed.

The time element occasions the misplacing of this editorial note. The whole of Dr. Dunham's article merits careful study.—Ed.

THE WAY TO MEET THE MENACE OF STATE MEDICINE

Most of us know that State medicine is not workable, that human beings will have doctors of their own choice. But this does not mean that it will never be tried. This journal is not of those who believe it will ever be tried in this country, because private practitioners will so improve the grade of the health care they are giving their patients that there will be no great demand for a change.

Of this whole issue we are unusually proud. Every contributor has written instructively from what he has learned at the bedside. We are proud of the product and grateful to the producers. Special attention is called to what Dr. Dunham told our Guilford County folks, because it deals with this problem under discussion.

Dr. Dunham's address shows a fine comprehension of the problem, and its solution; of what State medicine would mean, and how to readily make its coming impossible. Study the article and put into practice the methods there vouched for, and we will be better doctors and happier men, and the specter of State medicine will vanish utterly.

CORRESPONDENCE

A letter like this "doeth good like a medicine." Dr. Carter never gets any notice of dues because he pays in advance. The enclosure with this letter makes him "financial," as some lodge members say, to March 1, 1932.

Gatesville, N. C., Feb. 4th, 1931.

Dr. Jas. M. Northington, Sec.-Treas.,
Tri-State Medical Society,
Charlotte, N. C.

My Dear Dr. Northington:

I am enclosing herewith check for \$5.00 in payment of my dues for 1931. I never get any notice as to when this is due, but my records show that it has been just about a year since I sent you a check, and I figure I can't be very far off with this payment.

It is a great pleasure to be a member of the Tri-State and receive its warm fellowship, besides any one issue of *Southern Medicine & Surgery* to a doctor practicing medicine in this section of the country is easily worth, in itself, the price of the yearly dues. You are certainly to be congratulated on the magnificent manner in which you handle the affairs of this medical association.

With kindest regards, and hoping to see you in Richmond on the 16th and 17th, I remain,

Very sincerely,
Thos. L. Carter, M.D.

NEWS ITEMS

(Dr. Jas. K. Hall, Richmond and Dr. L. B. McBrayer, Southern Pines contribute regularly)

CENTENARIAN DOCTOR DIES

Dr. James Clarke Briggs, who last Sunday celebrated his 108th birthday, died January 22nd at the home of his son, George Avery Briggs, Selma, N. C. Dr. Briggs was in all probability the oldest physician in the United States and had made his home at Selma for the past two years, coming from Oklahoma. He was born in Summer Hill, N. Y., of ancestry, noted for their longevity. He practiced medicine for 63 years. He served throughout the Civil War as a surgeon in the 13th Wisconsin regiment of the federal army. For 15 years he was head of the veterans home at Johnson City, Tenn.

THE GUILFORD COUNTY MEDICAL SOCIETY, meeting on the night of February 5th, had as its guest Dr. Kennon Dunham of Cincinnati. Dr. Dunham's address will be found in another section of this issue.

The address stimulated tremendous enthusiasm and gave rise to many expressions of highest appreciation.

THE RICHMOND COUNTY MEDICAL SOCIETY met January 26th, in the offices of Dr. J. M. Ledbetter. The election of officers for the ensuing year resulted in the selection of Dr. T. Boyce Henry as president; Dr. A. C. Everett as secretary-treasurer. Dr. W. D. James, as delegate, and Dr. C. O. Bristow as alternate, to the State Medical Society.

All officers of the CABARRUS COUNTY MEDICAL SOCIETY were re-elected at the special meeting in the private dining room of Hotel Concord, January 28th. These officers are: Dr. Ira A. Yow, president; Dr. J. R. Howard, vice-president; and Dr. D. G. Caldwell, secretary and treasurer.

Other matters coming before the body were the election of Dr. J. J. Bunn of Mt. Pleasant as censor for 1931 and Dr. J. E. Burns as delegate to the State Medical Society, with Dr. J. R. Howard as alternate.

THE BUNCOMBE COUNTY MEDICAL SOCIETY meeting January 19th, heard Drs. C. S. and R. L. Norburn, and Dr. J. D. MacRae, jr., discussion opened by Dr. J. A. Moore.

THE MECKLENBURG COUNTY MEDICAL SOCIETY, at its regular meeting Feb. 2nd, were disappointed that illness prevented the attendance of Dr. C. S. Mangum, Chapel Hill, who was to have been the speaker of the occasion. The efficient secretary and the chairman of the program committee met the issue promptly and in a few hours arranged for a program which was accorded enthusiastic praise. Drs. H. L. Sloan, R. T. Ferguson and S. W. Davis gave instructive case reports, and Dr. W. Z. Bradford read an essay on Recent Advances in the Treatment of Eclampsia.

DR. H. F. MUNT, has removed his offices from the Wachovia Bank Building to the Nissen Building, Winston-Salem.

THE RADIOLOGY SOCIETY OF NORTH CAROLINA was organized on February 2nd at Durham, by a group called together for the purpose by Dr. H. H. Bass, Durham. Dr. J. K. Pepper, Winston-Salem, was chosen president; Dr. W. T. Rainey, Fayetteville, vice-president; Dr. Major I. Fleming, Rocky Mount, secretary-treasurer.

DR. H. H. HODGIN of Red Springs and DR. T. C. JOHNSON of Lumberton were re-elected members of the Robeson County Board of Health at a meeting held. DR. E. R. HARDIN was re-appointed health officer.

The Board went on record as opposing the recommendations of the Brooking's report as to the State Board of Health.

DR. B. M. BRADFORD, N. C. Med. Col., '13, has removed from Cherryville to Rutherfordton.

DR. WILLIAM Z. BRADFORD announces the opening of his offices in the Professoinal Building, Charlotte, for the practice of obstetrics.

DUKE

Professor Jules Duesberg, of the University of Liege, visited the school on January 16th and 17th. On January 16th, Professor Duesberg spoke on The Cytology of the Centrifuged Egg of Ciona.

Dr. Oscar Miller, of the North Carolina Orthopedic Hospital, gave a clinic on January 26th.

Dr. Hugh H. Young, professor of Urology of the Johns Hopkins Medical School, visited the hospital January 31st, and spoke on Recent Advance in Urology.

The Southeastern Surgical Congress
Announces its Second Annual Assembly which will
be held in Atlanta at the Biltmore Hotel
March 9th and 10th

Following is a partial list of distinguished guests who will appear on the program:

Drs.—Babcock, Wm. Wayne, Philadelphia; Ballenger, E. G., Atlanta; Barker, Lewellys F., Baltimore; Barnhill, John F., Indianapolis; Blair, Vilray Papin, St. Louis; Campbell, Willis C., Memphis; Coffey, Robert C., Portland, Oregon; Crile, George W., Cleveland; Deaver, John B., Philadelphia; Dowman, Charles E., Atlanta; DuBose, F. G., Selma, Ala.; Erdman, John F., New York; Guerry, Le-

Grand, Columbia; Haggard, W. D., Nashville; Hoke, Michael, Atlanta; Horsley, J. Shelton, Richmond; Jackson, Chevalier, Philadelphia; Killian, John A., New York; Lahey, Frank H., Boston; Lillenthal, Howard, New York; McCarthy, Joseph F., New York; Moore, John T., Houston; Moorhead, John J., New York; Royster, Hubert A., Raleigh; Shands, H. R., Jackson, Miss.; Thornton, Lawson, Atlanta; Young, Hugh H., Baltimore.

BOOK REVIEWS

CANCER, ITS ORIGIN, ITS DEVELOPMENT AND ITS SELF-PERPETUATION, THE THERAPY OF OPERABLE AND INOPERABLE CANCER IN THE LIGHT OF A SYSTEMATIC CONCEPTION OF MALIGNANCY, A Research by WILLY MEYER, M.D., Consulting Surgeon, Lenox Hill, and Postgraduate Hospitals, Emeritus Professor of Surgery, New York Postgraduate Medical School. *Paul B. Hoeber, Inc.*, New York, 1931. \$7.50.

Cancer is here regarded as a reaction of the tissue to certain systemic and local morbid conditions. For the development of cancer inherited or acquired predisposition is held indispensable. An unbalanced state of the salts of the serum is believed to have a large part in the causation of cancer.

In chronic irritation in predisposed individuals there is slow cell death and an accumulation of decomposition products of protein, which induce cell division, and this results in cell crowding.

Systemic predisposition is probably always alkalosis, which conception would make calcium therapy rational. The author disagrees with W. B. Coley's belief that cancer is due to a microorganism, but believes that Coley's fluid effects cures in some cases by correcting the tissue acidosis.

The work will delight readers who value good writing. Its commitment to definite theories of origin and treatment is a great improvement over the nebulous expressions found on every hand. It is a valuable contribution to cancer literature, a record of a sane, pains-taking research aimed at the reduction of cancer mortality. We believe it will result in just that.

HANDBOOK OF PEDIATRIC PROCEDURES, by FRANCIS SCOTT SMYTH, M.A., M.D., Associate Professor of Pediatrics, University of California;

Pediatrician-in-Chief, University of California and Out-Patient Department, and EDITH I. M. IRVINE-JONES, M.B., Ch.B., Instructor in Pediatrics, University of California Medical School, Instructor in Pediatrics, Washington University School of Medicine; Physician to Out-Patients, Washington University Dispensary. *The MacMillan Co.*, New York, 1930. \$2.50.

It is remarkable how much of value can be set down on a few pages when condensation is constantly borne in mind. The opening sentence is a model of brevity with sufficiency: "Diagnosis depends on: I Careful history, II Thorough physical examination, III Accurate laboratory examinations, including Röntgen rays." Throughout, the motive of including nothing superfluous is carried out; also that of being definite. The section on treatment is unusually good. The book is especially suited to the needs of the man doing general practice, who must utilize his time to best advantage.

THE APPEARANCE OF THE ELECTROCARDIOGRAM IN HEART LESIONS PRODUCED BY COD LIVER OIL TREATMENT, by ERIK AGDUHR, M.D., Professor of Anatomy, UPPSALA and NILS STENSTROM, M.D., Docent of Medicine, Stockholm. From the Anatomical Institute of Veterinärhögskolan, Stockholm, The Anatomical Institute of the University of Uppsala and the Electrocardiographic Laboratory of Serafimerlasarettet, Stockholm.

One of the authors has previously published papers describing heart lesions produced by c. l. o. (cod liver oil). The investigations here described were started to determine what of these disturbances might appear *intra vitam*. It was found that highly pronounced heart injuries could be present without the Ecg. (electrocardiogram) showing any changes from normal.

It is concluded that, in addition to its favorable vitamin action, c. l. o. possesses an unfavorable toxic influence, as shown by experimentation on various of the lower animals and on man. A tendency to spontaneous improvement in the heart lesion is noted when the c. l. o. is discontinued, but it seems not impossible that c. l. o. treatment in man may cause chronic heart disease. Evidence is adduced that even so small a dose as 0.1 c.c. of oil per kg. body weight per day is injurious

to the heart of the dog. Any certain amount of oil given as an emulsion is found to be more injurious than when given as pure c. l. o., which is ascribed to better absorption of the emulsion.

It appears that these are the first investigators to call attention to possible injury to the heart by c. l. o. Doubtless the notice will astonish all those who read it.

Until more data are accumulated it would seem the part of wisdom to refrain from routine or long continued use of c. l. o., even if it is true that, with the wellnigh universal use of the oil in the feeding of infants, evidences of injurious heart effects have not attracted attention.

It is a beautiful piece of work, painstakingly done, observed and reported. The illustrations are a delight to the eye. This reviewer is very appreciative of the complimentary copy and will look forward with keen interest to the reports of results obtained from the many investigators who can not fail to be stimulated to attempt to shed light on this important problem.

ELECTRICAL HEALTH HELPS

The attention of physicians and patients alike is invited to those electrical appliances which can be used to such splendid advantage for the comfort and health of persons who are not enjoying perfect health.

The electric heating pad, for instance, constant at any desired temperature, is a God-send to thousands who need applications of heat for the relief of pain. Small water heaters and other small appliances are found to be of great convenience and value in sick rooms.

The G. E. Sun Lamp, the Master Healthizer or the Graybar Stimulator, and other appliances may be used in many cases with much benefit.

You are invited to inspect these and other appliances at any of our stores.

**SOUTHERN PUBLIC UTILITIES
COMPANY**

**NORTH CAROLINA PUBLIC
SERVICE COMPANY**
Charlotte, N. C.

Miscellany

MEDICAL SOCIETY OF VIRGINIA FORMED IN 1821

(From the *Medical Recorder*, Philadelphia, 1926)
[Note.—Italics, except in titles are ours.—
S. M. & S.]

The Medical Society of Virginia was formed in the beginning of 1821, by a voluntary association of physicians in Richmond and Manchester, to whom were soon after added several practitioners residing in the country.

After a period of about three years, most of the members united in an application for a charter; and were incorporated by an act of the legislature of Virginia, passed on the 2nd of January, 1824, the principal provisions of which are the following:

1st. That the Society may enact all by-laws deemed necessary and proper for attaining the objects of their institution, and not contrary to the constitution or laws of the United States, or the commonwealth of Virginia.

2nd. To require of persons admitted to membership, such admission fees, and annual contributions, as a legal quorum may enact; *recoverable on motion with ten days notice, before either of the courts of law held in the city of Richmond, or in any county, city, or corporation, whereof the member failing or refusing to pay, shall be an inhabitant.*

3rd. That the Society may hold such buildings as may be required for immediate personal accommodation, as a Society, lecturing and dissecting rooms, and other apartments manifestly necessary or convenient for the promotion of medical knowledge; and also other real property, whereof the clear annual revenue shall not exceed two thousand dollars.

Soon after its formation the Society established a constitution and by-laws which have undergone various alterations. The principal amendment is the repeal of a regulation, requiring all members, after admission, should present essays in succession: thus the furnishing of essays or other communications, is now left entirely to the choice or convenience of the members.

The following are the constitution and by-laws according to the latest amendments.

—Richmond, April 20th, 1926.

CONSTITUTION OF THE MEDICAL SOCIETY OF VIRGINIA

The objects contemplated by the Medical Society of Virginia are the collection, diffusion, interchange, preservation, and general advancement of medical knowledge throughout the state.

Its constitution embraces the qualifications, election, and duties of its members, the election or appointment and duties of its officers and committees, and provides for its own amendment, whenever the necessity and propriety of amending it shall be sufficiently obvious. The following are its provisions:

Article I

OF ADMISSION TO MEMBERSHIP

1. Every candidate for membership must make

application to the Society by a written document bearing his own signature. Such application is to be presented and seconded by members having a competent knowledge of the applicant, and can only be received at a stated meeting. The application is to be presented and seconded by members having a competent knowledge of the applicant, and can only be received at a stated meeting. The application shall lie over one month at least for the consideration of the members, after which, the candidate shall be balloted for, and the approving votes of *three-fourths* of the members present, shall be necessary to his admission.

2. But previously to a candidate being ballotted for, his qualifications shall be duly ascertained, and shall be as follows:—

(a) The candidate shall have received from some public school, society, college or university, legally authorized, a degree of Bachelor or Doctor of Medicine, or Surgery, or a diploma or other certificate, evidencing his capacity to practise medicine or surgery.

(b) Where such degree, diploma or certificate has not been obtained, the candidate shall furnish satisfactory evidence of having regularly attended in some public school of medicine, lectures on anatomy, surgery, the theory and practice of medicine, materia medica, and chemistry, and of having passed in such academical attendance two full courses, and afterwards maintained a respectable standing as a practitioner for *five* years.

(c) Or that he shall have attended one course of lectures in the before mentioned branches of medical science, and shall afterwards having practiced with credit for *eight* years, submitted to a satisfactory examination before the society, *presented a medical essay, and publicly defended it.*

3. A copy of each essay after being read to the society, shall be delivered to the librarian.

Article II

OF HONORARY MEMBERS

1. Honorary membership shall only be conferred on distinguished medical characters residing beyond the limits of the commonwealth of Virginia, on presidents of the society who shall have discharged their official duties with fidelity and attention, and on members of *five* years standing, who shall have rendered eminent services to the society.

2. The election of honorary members can only be made at the annual meetings of the society, and not more than four shall be elected in any one year.

3. The election of honorary members shall be by ballot and the concurring votes of *four-fifths* of all the members present, shall be necessary to an election.

4. Honorary members shall be exempted from the payment of all pecuniary contributions to the society.

Article III

OF THE DUTIES OF THE MEMBERS

All the members of this society (honorary members excepted) shall, at the time of their admission,

pay to the society a fee of *ten* dollars, and shall also pay once a year (to fall due on the first day of January each year) such contribution as the by-laws may from time to time prescribe.

Article IV

OF RESIGNATION OF MEMBERSHIP

Any member wishing to withdraw from this society, shall be permitted to do so *on his written resignation, after he shall have presented the treasurer's receipt for all moneys due.*

Article V

OF CERTIFICATES OF MEMBERSHIP

Every member shall be entitled to a certificate of his membership, after he shall have paid his admission fee. The form of such certificate to be presented by the by-laws.

Article VI

OF FORFEITURE OF MEMBERSHIP, OR OTHER CENSURE

1. Any member who shall be guilty of gross misconduct, either as a member or citizen, or shall be palpably negligent of his duty, either as a member or officer, shall be liable to expulsion or such other censures as the society may approve.

2. But no judgment of expulsion, suspension, or other censure shall be passed against a member, till after at least one month's notice and a fair trial. And no member shall be expelled unless by the votes of *three-fourths* of the members present. And should such member come forward within the six months succeeding his expulsion, and offer sufficient explanation, he may be re-instated without expense, provided *three-fourths* of the members present agree thereto.

Article VII

OF THE MEETINGS OF THE SOCIETY

1. The Society shall be convened in the city of Richmond, on the third Saturday of every month.

2. Seven ordinary members shall constitute a quorum for the transaction of all business to which the society is competent.

3. Special or intermediate meetings may be held, by resolution of the society at its stated meetings.

4. The stated meeting in December shall be considered the annual meeting.

Article VIII

OF THE ELECTION OF OFFICERS AND COMMITTEES

1. The officers of this society shall consist of a president, a senior and junior vice-president, a recording and a corresponding secretary, a treasurer, a librarian, and a committee of publication of three members, all of whom shall be chosen by ballot, at each annual meeting; and the election shall have precedence of all other business at that meeting, after reading annual reports.

2. In conducting the annual election, two members at least shall be nominated as candidates for each office, *who shall withdraw while the other members are preparing and delivering their ballots.*

3. When the ballot is closed, the acting president shall invite the candidates to return to the hall, and cause the ballots to be examined, and report the state of the poll.

4. Should more than two members be balloted for, the member having the smallest number of votes on the second or any subsequent ballot, shall not be voted for in such ballots as may follow.

5. In all cases of election, a majority of the suffrages of all the members present, shall be necessary to constitute an election.

6. The president, senior and junior vice-presidents, may be elected for two successive years, and shall then be ineligible for the next two years, but the other officers may be re-elected as often as accords with the pleasure of the society.

Article IX

OF THE DUTIES OF OFFICERS AND COMMITTEES

1. It shall be the duty of the *President* to preside at all meetings of the society, to preserve order, and regulate the debates according to the most approved rules of parliamentary proceeding: *Provided*, any member shall have the right of appealing to the society, from the president's decision on any question of order. The president shall appoint all special committees, except the committee of publication.

2. In the absence of the president, the *Vice Presidents*, according to seniority, shall perform all the duties appertaining to the chair; but if neither be present, the society shall elect a member, to act as president for that meeting.

3. The *Recording Secretary* shall keep a correct list of all members of the Society, *arranged in the order of their admission.* He shall keep accurate minutes of all the proceedings of the Society, *including the name of the members present*, and from time to time transcribe them into the record book, in a fair and legible hand.

Such papers of the society as are not necessarily recorded, he shall preserve in distinct and regular files, holding them always accessible for the inspection of the members.

Whenever any special committee is appointed, the recording secretary shall furnish the chairman with a copy of the minute of appointment, as well as any documents that may be essentially connected with the duties of the committee or the chairman may require of him.

4. The *Corresponding Secretary* shall notify all members and officers of their election: he shall write and answer letters in behalf of the society, and, in general, manage their distant correspondence, as particular exigencies, or the resolution of the society, may require.

He shall read to the society all communications and answers which he may have received or made during each preceding recess, and then deliver them to the recording secretary or the librarian, according to their several characters.

5. The *Treasurer* shall receive all moneys arising from the admission and contribution of members, and shall pay the same agreeably to the orders of the society, certified by the member presiding.

(Concluded next month)

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., Supt.)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

Obstetrics and Gynecology

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS PATTIE V. ADAMS, *Business Manager*

MISS FANNIE AUSTIN, *Nurse*

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*

CHARLES S. MOSS, M.D. *Surgeon*

O. J. MacLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE *Pathologist*

INTERNAL MEDICINE

JAMES M. NORTINGTON, M.D.

*Diagnosis and Treatment
in*

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park

Arkansas

JAMIE W. DICKIE, B.S., M.D.

*INTERNAL MEDICINE
DISEASES OF THE CHEST*

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Wachovia Bank Building

Winston-Salem, N. C.

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

Practice Limited to
ORTHOPEDIC SURGERY and FRACTURES

Fifteen West Seventh Street
105 W. Franklin Ave.

Charlotte
Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761
Burlington North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J
3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT
Telephones—

Office—463
Hours—9 to 5 and by Appointment
219-23 Professional Bldg. Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.
Consultation 219 Professional Bldg.
Phone 4063

SURGICAL TECHNIQUE

**THE MIAMI LABORATORY
OF SURGICAL TECHNIQUE**

Offers a Special Postgraduate Course

**IN SURGICAL TECHNIQUE
AND OPERATIVE SURGERY**

ON THE CADAVER AND ON LIVE DOGS

To Be Given During the Months of April and
May, 1931

For Full Particulars, Address:

MAURICE E. HECK, M.D., Director
601 Professional Building, Miami, Florida

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

RADIOLOGY

BOOKER E. RHUDY, M.D.

X-Ray Diagnosis and Treatment

Suite 229 Jefferson Standard Bldg.

Greensboro, N. C.

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephone—3-7101

Urology:

ANDREW J. CROWELL, M.D.

RAYMOND THOMPSON, M.D.

CLAUD B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

LESTER C. TODD, M.D.

Roentgenology

ROBERT H. LAFFERTY, M.D.

CLYDE C. PHILLIPS, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKAY and McKAY***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Professional Building**Charlotte**

Residence Phone 1858

Office Phone 1857

221 East Main Street**DR. W. B. LYLES****Spartanburg, S. C.**

Practice limited to

UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., Director***PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM***Colonial Apartments****Greer, S. C.****L. D. McPHAIL, M.D.****WYETT F. SIMPSON, M.D.***RECTAL DISEASES**GENITO-URINARY DISEASES*

Phone 1234

405-408 Professional Bldg. Charlotte**Hot Springs National Park, Arkansas**

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENNER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building**Charlotte****RUSSELL O. LYDAY, M.D.***GENERAL SURGERY and SURGICAL
DIAGNOSIS***Jefferson Std. Bldg., Greensboro, N. C.****R. B. McKNIGHT, M.D.***SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30-5

Professional Building**Charlotte****WM. MARVIN SCRUGGS, M.D., F.A.C.S.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building**Charlotte****WILLIAM FRANCIS MARTIN, M.D.***GENERAL SURGERY
GYNECOLOGY***Professional Building****Charlotte****HAROLD GLASCOCK, M.D.***GENERAL SURGERY AND
DIAGNOSIS*Office At
Mary Elizabeth Hospital
Raleigh, N. C.

Address*

of

The President

The Tri-State Medical Association of the Carolinas and Virginia

W. B. LYLES, M.D., Spartanburg, S. C.

In this city, more than 25 years ago, it was my privilege to first attend a meeting of the Tri-State Medical Association. The impression made upon me in those medical student days has been lasting. It was a gathering of men of high type, men who offered inspiration to the younger colleague and challenged him to follow worthily in their footsteps. A standard was set by those directing the policies of this organization which those following in the ranks were proud to emulate and accept as the code of the association. As I look into this audience, I still see some of those faces that impressed me as a youth; others have passed into the Great Beyond. To both I owe a debt of gratitude. Their standards and their worthiness awakened the resolve in me to join ranks with the Tri-State as soon as I was eligible. This I did and the benefits, social and professional, have far exceeded my youthful dream. If there has been anything that I have missed, it has been due to omission on my part and not to any fault of the society.

Last year in Charleston, you saw fit to make me your president, an honor I shall always cherish and for which I feel a deep gratitude to you. The present economic depression has had its telling effect on the medical profession, perhaps a more devastating effect than on any other vocation, exacting the closest application of each and every one of us to his private affairs. Probably as never before, our time has not been our own. Admitting weakness and inability to measure up to his predecessors, your president has not been inactive to the obligations of the society. Your secretary and he have labored to arouse the interest and secure the coöperation necessary to make this a successful occasion.

Rapid changes have taken place in the last quarter of a century, finding us daily making new adjustments. The achievements of medical science have kept pace with the progress of civilization, yet today the profession is facing an issue of economic readjustment. The problems of the medical profession are not what they will be tomorrow. Just as the heads of finance tell us the machinery of industry has halted for readjustment, so the medical profession must take stock economically.

The Tri-State was founded for the advancement of medical science, the elevation of the profession and the promotion of all means for relief of physical suffering. It has consistently adhered to these principles which are sound and pertinent and has taken considerable pride in its non-political position. It has embodied in its membership influential and representative men of Virginia and the Carolinas and has gained with this position and prestige, the power to sway medical opinions in its own territory. This influence and the society's usefulness is so paramount to the medical profession, that it seems today it could have great power in helping to adjust some of the economic problems that now confront us.

I fear the medical profession is not accurately visualizing the radical changes that are rapidly taking place in the practice of medicine today. Unless there is some immediate and concerted action by us as a whole, our individual and personal practice is seriously threatened and the whole foundation of the medical system will be seriously threatened. We owe it to ourselves, as well as to generations following, to maintain our rights as individual practitioners, or else submit to a fast

*Delivered at the 32nd Annual meeting, Richmond, February 16th, 1931.

growing communism. In a recent address to a distinguished medical body by a physician high in government employment, I was amazed at the following remarks: "I have little patience with those pessimists who are bewailing the passing of the family physician or the death of individualism. In ancient times, state medicine existed. There is no justification for despair because of changing conditions. Necessity has impelled a different conception of the individual's relationship and duty to his fellow man. It is no business of ours what State or Nation shall do for itself through its government. The medical profession is not a Joshua empowered to command the sun of evolution to stand still." Such expressions coming from one of our profession, already in the employment of the government, is without sympathy and understanding of the problems that now confront the individual doctor. He has no knowledge of the struggles of the average family physician. His point of view is directly opposed to the best interest of the medical profession. His remarks manifest a spirit of selfish content with the state of himself and his, in a nest well feathered at the general expense.

It is no common secret that the dictates of an invisible power are having far-reaching influences on the rights and functions of our profession. The proof of this we have in the five-year study of the cost of medical care, the increasing tendency of industry to assume care of the health of its employees, the increasing demand on the part of our county and municipal hospitals to compel free service by the profession without adequate facilities or due consideration by the administrators who exact that service. Included in this are the various types of social workers, many of whom are employed by industrial insurance companies to dig up their indigent sick to be thrown upon the free clinic at the expense of the doctor. Do not understand me to be without sympathy for the needy sick. The medical profession always has and always will care for its charity, but justice demands that in dispensing this charity, organized medicine should be in control and not lay boards and lay workers.

The veterans' bureau act as amended, as well as the proposed revival of the Shepard-Towner bill by Congress are other steps to socialistic medicine and an infringement on the rights of the individual doctor. Recently

from the Council on Medical Education and Hospitals, of the American Medical Association, we have this information—"a bill now before Congress proposing an additional appropriation of \$52,000,000 of the Public's money to erect additional hospitals for veterans. The bill, if passed, will provide additional hospital facilities at government expense for veterans regardless of whether their sickness or injury is of service origin or not. Every one of us as citizens is in full sympathy and wish to see all veterans suffering from service disability given the best care that can be obtained, but we question the wisdom of building the proposed additional institutions to care for non-service ailments in competition with existing hospitals which may be in position to give as good or better care and which are not supported by taxation."

It is refreshing, however, to note that the American Medical Association is, at last, beginning to take notice of what really is about to happen. I quote in part an editorial from the *Journal of the American Medical Association* of October 25th, last year: "The medical profession is becoming weary of suggestions for modifications of its methods and customs, and the history of the reason for their existence." We are weary, but are the leaders of organized medicine doing any thing to give us rest?

The popular topic of medical economics is daily being heralded to the public by lay writers and even by some who sign themselves "M.D." These medical authors, as well as lay authors, we find, are generally beneficiaries of some philanthropic fund, whose articles seemingly justify their jobs. Many sound and sensible contributions are being written by medical men throughout the country and even by Fellows of our own Association in rebuttal of these attacks on the profession—but are they far-reaching? Does this message ever reach the public who should hear it? These articles appear only in medical magazines restricted from the eyes of the public. Why discuss in our limited circle what should be broadcast? How else will the average citizen be informed of the facts? The time seems ripe for the public to be given the truth about medicine and its problems. The able pens of our outstanding medical men should reach out to popular publications and tell what it all really means. This is an age of high pres-

sure salesmanship and the responsibility of our cause rests with the leaders of organized medicine who must present the truth about our problems to a restless public.

In conclusion, I wish to recommend to this body the following committees which I believe to be of vital importance to us all. First, a committee on medical economics, the duties of which would be to function with their respective state organizations and investigate conditions of medical economics and suggest means and methods by which the same may be improved. Second, a membership committee from each of the three States. This committee should be able to enlist in our ranks a large proportion of the best talent entering the profession, thus assuming a part of the burden of recruiting which has been borne almost entirely by the secretary-treasurer.

I also recommend that this association consider the wisdom of adding to the list of our officers that of president-elect. Such a provision would bring into the office of president, each year, one who has had ample time and opportunity to study the needs and possibilities of the society, which would put the president in position to render real service during his term of office.

ENURESIS

Enuresis is probably most commonly the result of inadequate training in bladder control. The treatment seems to be predominantly habit training. The patient must be told that he can stop his bed wetting if he tries hard enough, that success will come after a period of trying; he must determine that he will not sleep heavily and he must do everything possible to prevent excessive fatigue; he must determine that he will awaken when a desire to micturate becomes strong. If he will but analyze the problem thoroughly and use his will power to overcome it, he will usually succeed.

All inflammation and irritation in and about the genital tract should be given careful treatment. The use of bromides to dull the cord centers seems entirely logical. The administration of atropine to relax the involuntary muscle of the bladder also seems rational. I can see no sensible objection to restriction of fluids in late afternoon and evening. The painting of collodion over the urethra outlet seems well worth trial. The instillation of silver nitrate into the bladder to the point of causing smarting on micturition might be worthy of trial, as I am sure it might sometimes be counted upon to beat an alarm clock for awakening a person. The proverbial bedside pot has its place and should be used constantly.

THE UNFAVORABLE RESULTS OF PHRENICECTOMY (Berry, Frank, in *Archives of Surgery*, December, 1930.)

I have endeavored to point out that there is a definite risk associated with crushing, resection or avulsion of the phrenic nerve. Fifty-seven cases, four of which are my own, have been reviewed in which phrenicectomy was detrimental; 26 of the patients died as a result of the operation. These poor results have all been subsequent to properly performed operations without technical error. In view of the fact that there is such widespread advocacy of phrenicectomy as a harmless procedure in cases of pulmonary tuberculosis, bronchiectasis and even abscess of the lungs, it would seem wise to call attention to the risk involved, slight though it is.

How may these accidents be avoided? There is less danger of mishap in cases that have become more or less stabilized. Patients in whom the disease is acute and progressive do not respond so well.

Another group of patients who may have trouble are those with large amounts of sputum, as in bronchiectasis, or an extensive fibrocaceous type of tuberculosis, in which it is essential for drainage that coughing be free and unobstructed. Phrenicectomy does not always facilitate cough and expectoration; occasionally, it works just the other way, operation so hindering cough and drainage, with resultant decrease in sputum, that the secretions puddle in the lung, and an extensive fatal pneumonia develops.

It is not my wish to detract in any way from the value of phrenicectomy or the great benefits derived from it in all properly selected cases. I wish merely to place before the medical profession the fact that there is a certain risk (1.2 per cent).

Finally, is it not possible that perhaps these figures do not represent all of the unfavorable results and fatalities that have followed phrenicectomy?

THE TECHNIQUE AND RESULTS OF MYOMECTOMY (Bonney, Victor, in *The Lancet* (London), January 24th, 1931.)

That myomectomy is a greater surgical achievement than hysterectomy is incontestable. It is true that many women do not wish for children or more children, but that is a very different thing from desiring that the capacity for conception shall be taken from them. Women thus marred not infrequently develop an inferiority complex under which they magnify trivial acts of forgetfulness into intentional slights and become touchy and suspicious. Fibroids are relatively rare in young women, yet they are not infrequently met with, and surely it is a sorry reflection on surgery if it is not able to secure health for such patients without jeopardizing their future happiness, and the gynecological surgeon, but half-sighted, who is blind to the importance of leaving intact in its fullest possible strength the tie that binds together such totally dissimilar creatures as man and woman.

Indications and Contra-Indications for the Removal of Tonsils in Children From a Pediatric Standpoint*

D. LESESNE SMITH, M.D., Spartanburg, S. C.

In reviewing some 27 articles on this subject, one is impressed with two outstanding facts: first, the bulk of the papers are written by laryngologists, only three being published by pediatricians; and second, it is striking that nearly all of the articles reviewed have to do with tonsils in children over five or six years old, very little being said about younger children. The three papers written by pediatricians were the only ones that reviewed the cases from the end result of a number of years of observation after operation. None of the laryngologists attempted to bring out these facts. Accordingly, it is natural to feel that the men who have to follow these cases after operation are in a better position to pass an opinion than those who do the work and discharge the patient.

Albert Kaiser has published several articles on his observation of the results of tonsillectomies. His recent article in the September, 1930, *A. M. A. Journal*, is the most comprehensive in the literature. Later in this discussion I quote from this article. Also, it may be said here that in dealing fairly with the subject I have thought it best to quote the opinions and observations of several men who have written concisely and clearly along this line. The articles in Abt's system, though excellent, are written by a laryngologist.

A number of honest convictions and observations which have grown out of a long experience in handling children have prompted the preparation of this paper. We see many children from 10 months to four years of age who have had their tonsils removed because of repeated attacks of colds or upper respiratory infections. These children continue to have the same infections and many of them have more serious trouble than before. Instead of a simple tonsillitis the infection is not so definitely localized and the result is often a pansinusitis, or a bronchitis. The

general public, especially the present-day mothers, have been so thoroughly educated as to the importance of the removal of tonsils that they have the impression that a child is not normal with tonsils. I, therefore, feel that removal of tonsils in children is due more careful consideration and should be advised as a result of definite indications only.

To quote Fred Stokes writing in the *Lancet*:

"There is a common tendency to condemn tonsils simply because they are enlarged, and no less common is the inclination to saddle them with the blame of an obscure toxemia for which neither the teeth nor the intestines can be held responsible. One is often asked by anxious yet optimistic parents, 'Is it the tonsils?' when they are dissatisfied with the intelligence, the physique, or even the habits of their progeny. The tonsils are constantly removed on such grounds, the surgeon being warmed by the comforting thought that if the operation does not prove beneficial, it will, at any rate, do no harm. Do we exercise the same care and discrimination before advising the removal of tonsils which we observe when recommending, for example, a radical mastoid operation? Do we go into all the possible reasons why the tonsils are enlarged, or ask ourselves if the cheesy contents of an open crypt are indeed harmful?"

It is interesting to note the various functions attributed to the tonsils. That the tonsils are not simply ordinary lymph glands, but definitely differentiated organs, seems to follow from their location and development. In the embryo, the dorsal extremity of the second visceral cleft enlarges and forms a recess, termed the sinus tonsillar. The palatine tonsil is developed from this depression. The upper part of the sinus persists as the supratonsillar fossa. The tonsil in the beginning is a smooth depression of the mucous membrane. About the 4th month of fetal life, downgrowths of the epithelium take place, and these are later converted into the tonsillar crypts. Subsequently, lymph cells

*Presented by title to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

Dr. Smith was present and presented his paper by title to expedite the business of the Association.

accumulate around these crypts and form the lymph tissue which constitutes the bulk of the organ. There are a variable number of crypts and the openings of these constitute minute depression which may or may not become enlarged by the accumulation of the caseous material which the tonsil discharges. As one observer puts it, the tonsils are compressed by the contraction of the palatal muscles during the act of deglutition and this squeezes them, which action helps to empty the crypts of their contents. When the muscles relax and release the tonsillar compression the crypts reopen and bacteria, foreign material, and debris are aspirated into them. As this line of reasoning has it, as long as the expression and aspiration within the crypts are balanced, the cryptic structure is functioning properly and the tonsillar organs are not diseased.

Henry Heinman quotes the work of Adami and Nicholls, who say:

"The tonsils appear to have an important function. While the lymphoid cells are themselves, to a limited degree, phagocytic, polymorphonuclear leucocytes in considerable numbers make their way from the blood vessels to the surface through the epithelial covering. These leucocytes are strongly phagocytic and their activity suggests that the tonsils form one of the barriers against the invasion of the system by pathogenic micro-organisms.

Henke proved by a number of experiments that there was a constant lymph current passing from the mucous membrane of the nose and gums through the tonsil to its surface. This must undoubtedly act as a strong force in combatting bacterial invasions. The reaction of the tonsil is commonly noted, while the original source of the infection, whether it be in the nose, the accessory sinuses, or in the mucous membrane of the mouth, is entirely disregarded.

Tonsillitis alone, or when associated with other conditions, is usually only a manifestation of systemic infection. If the infection becomes more generalized, it occurs in spite of the tonsil, not because of it.

In rare instances, however, the tonsils may cease to function and become 'choked filters' in which cases they may be a source of infection. The diseased condition should be proved before the tonsils are sacrificed.

Masini believed that the tonsils developed an internal secretion, similar to the suprarenal gland, but this has not been substantiated by sufficient evidence."

A few of the authors claim that the tonsils have no function but the vast majority do

not agree with this. They all agree that the tonsil acts in the same way as all other lymph tissue does in protecting the body from disease by holding the infecting organisms or their toxins and by degrees destroying them. There is a view that in localizing different types of infection the tonsils cause an inoculation of the body, which in turn stimulates an active immunity somewhat as is obtained by the use of vaccines.

Of course the immediate practical problem in each case is to determine whether the tonsils are functioning properly, and therefore, contributing their share towards the protection of the body against disease, or whether the tonsils have themselves been overcome by disease and this has resulted in an accumulation of toxic material which feeds the body with a more or less constant stream of poison. In other words, are the tonsils a protection or a menace to health?

Dr. F. J. Pratt sent out a questionnaire on this subject to 250 physicians. Some of his conclusions are:

"So far as results go the tonsil operation, in many cases is not satisfactory. True the patient is rid of his repeated sore throat or focal infection, but in their place are often added new and different symptoms hard to relieve.

That on the whole the good results obtained more than offset any occasional bad symptoms.

That a tonsil operation should be classed as a more major operation. If it were, physicians would be more careful as to their training before attempting it."

As I have said, the most comprehensive and definite follow-up study of tonsillectomized children has been recently contributed by Albert D. Kaiser. His study includes 2,200 cases in which the tonsils have been removed, with an equal number of controls, and extends over a period of 10 years, with observations also made at the end of three years. This work seems to me to be of such value that I quote Kaiser's conclusions in full:

"1. The real value of the removal of tonsils and adenoids cannot be definitely established in a few years. Apparent benefits during the first few postoperative years are not so evident over a ten-years period.

2. Outstanding benefits are apparent in influencing the incidence of sore throats over a ten-years period.

3. Substantial benefits are apparent in rendering

children less susceptible to scarlet fever and diphtheria.

4. Acute head colds and otitis media, though definitely lessened over a three-years period, are not essentially influenced over a ten-years follow-up period.

5. Cervical adenitis is decidedly reduced in tonsillectomized children over a ten-years period.

6. The respiratory infections such as laryngitis, bronchitis, and pneumonia, not only are not benefited but actually occur more frequently in tonsillectomized children.

7. First attacks of rheumatic manifestations occur from 30 to 50 per cent less often in tonsillectomized children. The greatest reduction occurs in children tonsillectomized early. Recurrent attacks are not benefited at all.

8. Incomplete tonsillectomies do not offer the same protection against the usual throat complaints and infections as complete removal of tonsils.

9. The hazards of tonsillectomy must be considered in evaluating the end-results. Considering this hazard, the late results seen in 2,200 children ten years after operation are evident only in the reduction of sore throat, cervical adenitis, otitis media, scarlet fever, diphtheria, and rheumatic fever and heart disease."

An interesting diagnostic procedure reported by Guttman in the *Illinois Medical Journal* of 1930, if it proves to be feasible, will give us a concrete and definite workable basis for making our diagnosis of a diseased or healthy functioning tonsil. His procedure is to make a blood count, massage the tonsil and, 30 to 40 minutes afterwards, make another blood count: if there is no rise in the leucocyte count he terms this a normal tonsil. If there is a rise, then he thinks there is some pathology. His thoughts are well worth while considering and we will watch his future work with interest.

The evidence at hand shows conflicting opinion as to the advisability of removing tonsils from children under five years of age, but there is a traditional idea that it is unwise to do so unless there is unmistakable evidence of disease manifested by a continuous inflammatory condition of the tonsil and associated fibrosis. Reddened tonsils with repeated attacks is not, in my opinion, as well as many of the best authorities, sufficient reason for removing them. This type of throat is most often seen in the acute upper respiratory infections in children under five years of age, complicated with otitis. The most logical plan suggested by many is to do

an adenoidectomy and leave the tonsils. My experience leads me to believe that this is the best procedure in conjunction with other efforts to improve the child's resisting powers by all available methods.

It is a common occurrence to see children from two to five years of age with bronchitis and pansinusitis of a severe nature. These children have had their tonsils removed, and it is my impression that they are much more seriously sick than those who have not been deprived of the protecting influence of the tonsils.

The majority of asthmatic children who have had a tonsillectomy give a history of being much worse since the removal of the tonsils. Before condemning any tonsils there should be a thorough checking of the child from the standpoint of nutrition, posture, and all other physical defects. No tonsils should be condemned in any acute attack or when the child has a cold, or because he is underweight. Children over five years old who are constantly underweight whose physical examinations are negative in every way, whose tonsils show a red line at the junction of the pillars and tonsils, should have the benefit of a tonsillectomy. My personal rule is to observe the tonsils and check up the child at least three times before advising a tonsillectomy. The removal of tonsils in many instances does not do any harm even if it does not improve the condition for which they were removed, but are we justified in such comforting thoughts?

There are definite indications for removal of tonsils where a child has a chronic pyelitis or pyelo-nephritis which can not be accounted for in any other way and the tonsils are seemingly the only pathological focus. It is then, in my opinion, imperative to remove the tonsils.

A child with an acute attack of chorea should not have the tonsils removed in the acute attack. Even after the acute attack has subsided, it is questionable whether the removal of the tonsils is advisable, unless they show a very marked and decided amount of pathology.

Frequent acute attacks of otitis media, for which tonsils are frequently removed, in my opinion is not an indication, unless the tonsils show a marked infection. An adenoidec-

tomy seems to be the most logical thing to do to relieve this condition.

In conclusion, we should approach the subject with more seriousness than at present appears to be the custom. It should be viewed as a major operation and the child given every consideration before removing the tonsils.

Bibliography

- STOKES, FRED: *Lancet*, Nov. 26, 1927.
 BOWSER, W. F.: *Journal of Iowa State Med. Soc.*, Jan., 1927.
 HEINMAN, HENRY: *American Ped. Society*, 1922.
 KAISER, ALBERT D.: *J. A. M. A.*, Sept. 20, 1930.
 GETTYS and MITCHELL: *Atlantic Med. Journal*, Sept., 1924.
 MONROE and VOLK: *American Public Health*, May, 1930.
 GUTTMAN, M. REESE: *Illinois Medical Journal*, May, 1930.

MERCURIC CHLORIDE POISONING WITH RECOVERY FOLLOWING THE USE OF SODIUM THIOSULPHATE

(Marcbanks, H. E., Smith, C. H., and Church, H. L., in *Jour. A. M. A.*, February 21st, 1931)

1. A woman took 75 grains (5 Gm.) of mercuric chloride.
2. She had retained the poison twenty minutes (not actual time, but by guess), before she vomited at all and thirty minutes before she had an emetic.
3. The nonprotein nitrogen reached 300 mg. and the creatinine 7.8 mg. on the seventh day after the poison was taken.
4. Fifty c.c. of sodium thiosulphate in five doses seemed to have neutralized the mercury and saved the patient's life.
5. Six months after taking the poison the patient has normal kidney function and has no symptoms that are traceable to the mercury.

MANAGEMENT OF THE THIRD STAGE OF LABOR WITH REFERENCE TO BLOOD LOSS

(Calkins, L. A., Litzenberg, J. C., and Plass, E. D., in *Journal of Obstetrics and Gynecology*, February, 1931)

Immediately upon the birth of the baby the fundus is carefully located by the obstetrician, or an assistant, and is held constantly until the placenta is separated and expressed and bleeding thoroughly controlled. Care is taken not to massage the uterus unless there be evidence of considerable softening or actual bleeding. Of the signs of placental separation beginning bleeding (excluding cervical bleeding) would seem to be the most important. As soon as there is evidence of placental separation, the organ should be expressed by squeezing the uterus and making downward pressure. This separation of the placenta takes place in the large majority of cases in from one to five minutes. Immediately following the delivery of the placenta firm contraction of the uterus should be produced by (1) the administration of pituitrin, hypodermically, and (2) moderately vig-

orous massage of the uterus. This massage is probably more important than the pituitrin. The uterus should be watched closely for at least one hour following delivery. Ergot may also be given at the discretion of the obstetrician. At the end of one hour all clots should be expressed from the uterus and vagina.

It is believed that this technic, carefully carried out, should result in an average loss of not more than 150 c.c. of blood.

THE TREATMENT OF HYPEREMESIS GRAVIDARUM

(Van Wyck, H. B., in *American Journal of Obstetrics and Gynecology*, February, 1931)

The four factors, starvation, dehydration, hepatic derangement, and neurosis demand treatment by:

- a. Rest in bed with isolation
- b. Sedatives
- c. Intravenous 10 per cent glucose in normal saline in amounts up to 3000 c.c. daily until the urine is increased to at least a liter
- d. The use of larger amounts of carbohydrate and protein by duodenal tube in certain cases.

The first two are used to overcome the neurosis, the third the dehydration, and the fourth, the hepatic derangement.

The same principles indicate the prophylactic measures which should be used in the treatment of early mild nausea and vomiting.

PHYSIOLOGIC MEANING OF COMMON CLINICAL SIGNS AND SYMPTOMS IN CARDIOVASCULAR DISEASE

(Wiggers, C. J., in *Journal of the A. M. A.*, February 21st, 1931)

An intelligent discussion of cardiac pain is not at present possible, for ideas as to the ultimate mechanisms producing pain remain wholly speculative. The viscera are apparently not supplied with afferent fiber that ordinarily relay pain sensations directly to the cortex. Afferent impulses from the viscera may, however, form synaptic connections with the posterior root ganglion cells. In so doing they give rise to pain sensations that are not referred to the organs from which they arise but to somatic areas innervated by sensory fibers of the posterior root ganglion cells with which contacts are made and often reflex muscular rigidity develops in the somatic regions supplied by the spinal cord segments involved. If the stimulation of viscerosensory terminals becomes very severe, cells in contiguous spinal segments may be affected, in which case the referred pain and hyperesthesia involve larger skin areas. In this way it is possible to explain why referred pains resulting from stimulation of afferent cardiac nerves are sometimes distinctly limited to circumscribed regions below the sternum and over the pericardium and at other times spread over the whole left side of the chest, or even radiate down the left arm and up the neck as far as the mastoid region. Histologists have so far discovered no nerve terminals in the ventricular myocardium or its blood vessels that can safely be inferred to carry afferent impulses.

Reminiscences of Forty-two Years in the Practice of Medicine*

J. F. HIGHSMITH, M.D., F.A.C.S., Fayetteville, N. C.

Highsmith Hospital

On the 10th of April, 1889, I had the honor of being graduated from Jefferson Medical College and 10 days later I successfully passed the examination of the North Carolina State Board of Medical Examiners. Of this group of illustrious men, any one of whom was worthy to be made the ideal for a young man, Doctor A. W. Knox, a most highly respected, Christian gentleman, of Raleigh, is the only one now living.

Previous to this time the only requirement necessary for a young man who chose medicine as a life work and desired to enter medical school, was to have spent some time in a doctor's office, the doctor being his preceptor and giving the necessary training and recommendation to enter the medical school of his choice. The training a young man received in such environment was practical work, daily sandwiched with studies from such textbooks in medicine as were found in the preceptor's library. There was always ample opportunity for the preceptor to know the character, ability, tact and aptitude of the student.

I might say here that history is repeating itself in this respect, for on the thirteenth of this month the American Medical Association gave aptitude tests to pre-medical students in 700 institutions in this country. The object of these examinations is to measure one's ability to understand and organize the same kind of material he will have to deal with in medical school.

In medical schools then considered first class the course was two years, six months or less of the year spent in college and the remainder of the time in the preceptor's office. In some schools the period of time was less and if the student could pass the examinations to the satisfaction of the professors, he was given his diploma in one year's time. A few medical schools, however, were recommending three years in medicine, but this was optional with the student. After being graduated no internship was required, although some eager students availed themselves of the opportu-

nity, and served as interns under leaders in the profession. With this preparation a young physician was allowed to go before the State Board of Medical Examiners and receive state license to practice medicine. North Carolina was the first State in the Union to have a Board of Medical Examiners.

Truly this was a wonderful time to enter the medical profession, and all honor is due the teachers and noble leaders of our profession at this time. They were truly great, giving their students and co-workers courage, faith, vision and magnanimous dreams of the future. We cannot refrain from mentioning some of these men and humbling ourselves in grateful appreciation to Almighty God for the inspiration of these men, most of them long gone to their just reward. Men like J. M. DaCosta, S. W. Gross, Hunter McGuire, John A. Wyeth, W. S. Halsted, Charles McBurney, A. J. Oschner, Mayo Robeson, Sir Victor Horsley, Theodore Kocher, Sir Berkley Moynihan, W. J. and Charles Mayo, George W. Crile, John B. Murphy, Wm. Osler, T. C. Janeway, W. M. Pepper, William T. Bull, Joseph Price, W. W. Keen and Walter Reed. Under such men we have seen great advance in our profession. They have well cultivated the plant grown from seed sown by their predecessors. The sowers were truly great, but those who cultivated the plant are equally important and the reaping at harvest time has been truly wonderful.

In the small towns and country districts the general practitioner in the beginning of the twentieth century and previous to that time had great odds to confront him, but his indomitable will made him mighty and gave him a name in history, the "old-time family physician," who rejoiced in our joys and wept in our sorrows. He will never be forgotten and his place he will always have in the profession.

At this time neither typhoid fever, diphtheria, yellow fever, pernicious malaria fever,

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

hydrophobia, cholera infantum, goiter, gall-bladder disease, nor appendicitis had been conquered. In small towns and country districts the doctor was called, not by telephone, but by messenger on foot or on horseback. Automobiles and telephones had not made their appearance.

Ian MacLaren well portrays "The Doctor of the Old School" in the character of Dr. William McClure of Drumtochty. Conditions then were not altogether different from conditions existing in my early practice. I had hardly arrived home from school when an epidemic of typhoid fever developed in my community. I shall never forget calling in an experienced doctor for consultation and the remark he made, that I was doing as well as he could but that I must not leave one single stone unturned to set at rest the patient and his people. This done I might lose a patient but his people would think no less of me. To the contrary, if they thought that I had been negligent and not rendered painstaking care, I would not be forgiven. These remarks have remained uppermost in my mind to this day and truly this brother physician was a friend to a young man in distress.

I recall attending a young colored man with typhoid fever; his temperature was high, he was delirious, had dry tongue, tympany, etc. He was living in an average tenant house, with no conveniences and no one to nurse him except his mother. I told the mother we would place him on the floor, where there were many cracks, then told her to go to the spring and bring several buckets of cold water. This she did; his temperature was 106 degrees at the time so we poured water from a gourd over his body from head to feet like putting out a chunk on fire until his temperature was down around 101; then we dried the patient off and put him back to bed. I did not see him the next day but on the third day when I returned he was much better and the mother told me she had given the same treatment I gave, namely, overcoming fever by giving a cold bath. So this taught me early, where there is a will, there is a way.

Nurses in typhoid were those who would volunteer, changing from one friend to another, without any pay except good will. The only practical nurse worth while was the colored midwife who looked after obstetrical cases under the direction of the obstetrician.

She remained with the patient not less than four weeks, and among the better classes, usually received as salary five or ten dollars per week. One of the greatest assets of our profession in recent years is the assistance rendered in the control of disease by our co-worker, the trained nurse.

The doctor's office was usually in the drug store and was poorly equipped; office help was the druggist or some young drug clerk. Many times the druggist of years experience was very helpful to the young physician. The first case of hydrophobia I saw was in 1902; the diagnosis was made by the druggist, for he remembered the man coming to the drug store some time before, after having been bitten about the face by a dog.

The doctor's medicine case or saddle-bags was well equipped with quinine, calomel and arsenic, his weapons against malaria; tincture of iron and Bland's pills for anemia; mercury and iodide of potash for syphilis; castor oil and Epsom salts as purgatives; ipecac and tartar emetic for croup; sticking plasters for lumbago; cantharides for blistering; chloroform and ether as anesthetics; opium and its derivatives for pain; antipyrin and ante-febrin to reduce fever. Digitalis was used for heart conditions. Shingles and fence rails were our only materials for splints in fractures. The x-ray had not yet been born, but fractures really did unite and results were generally good.

Now and then there were surgical cases, but hospitals, like insane asylums, were still regarded by many as necessary evils. In our cities the hospitals were chiefly for patients who had no homes and for those cared for by charity. There were no hospitals comparatively speaking, in North Carolina to take care of surgical work. My first herniotomy, in 1892, was performed upon a man 85 years old, and as there was no one to help I made my own preparations in the farm house. This patient made an uneventful recovery. Now and then, under similar surroundings, I did a tracheotomy for foreign body; breast amputation; curettage for retention of secundi; cesarean section; plastic surgery on perineum and cervix; and amputations of various kinds, with fair results.

In 1908 I had the opportunity of bringing a case to Richmond to see Dr. Hunter McGuire. The patient had an infected bone in

his foot following erysipelas. The diseased bone was removed and through and through drainage was established. The operation was performed at St. Luke's Hospital, which, as I remember, was then located east of the Capitol. It is now a modern institution built by Dr. Stuart McGuire, at 1000 West Grace street. St. Luke's and the Retreat for the Sick were the chief hospitals in Richmond. Think of the hospitals and their bed capacity in this city today! In 1900 we had in North Carolina only four hospitals and they were poorly built and poorly equipped, having a total capacity of not over 100 beds. Today North Carolina is known for her splendid hospital facilities as she is known for her good roads, and all this progress has come within a quarter of a century. Who can visualize what the next twenty-five years will bring forth? Before this era, our young men, like Marion Sims of South Carolina, sought fields elsewhere in order to perfect themselves in their work. Now with the building of standardized hospitals in our own State, they are remaining at home and are being developed into leaders in their respective lines of work.

As before said, at the dawn of the 20th century, the change in medicine and surgery was very apparent. Listerism was fundamentally responsible for the great advances in surgery; making possible the safe exploration of any cavity in the human body under aseptic surroundings and going with this a more thorough technical knowledge. Listerian surgery has become almost as reliable a science as book-keeping. The World War also rendered great service in working out a more perfect technique in many lines of surgery.

Notable, among other helpful factors at this period, was the Mayo clinic. In the year 1900 the clinic was essentially a well organized surgical practice. In 1901, a new era, a more scientific organization began to develop. Private hospitals were being built here and there and the men who built them frequented the various clinics, receiving much help. I have always prized most highly my visits there and especially my first visit in 1904. At this time Drs. William and Charles Mayo were doing the operating with their venerable father, Dr. W. W. Mayo, looking on. For the little that I have learned I must give much credit to the Mayo clinic. After having been in many other clinics both in

this country and abroad, I can say that I have never seen surgery where difficult problems were simplified and technique perfected to that extent as at this clinic. A lasting gratitude of the medical profession is due these brothers.

In 1884 the New York Post Graduate School began to give post-graduate work while a short time previous to this, the New York Polyclinic was established. Instruction from these institutions was gradually sought from year to year, thus leading to team work and the furtherance of development in special lines of work. My first study at New York Post Graduate School was in the spring of 1892; then as I recall, the old building was a very modest affair situated between Second and Third avenue. It was later rebuilt on Twentieth street and Second avenue and recently has been merged with Columbia University. With a better understanding of pathology and its allied branches; with better anesthesia and better technique, surgery began to grow by leaps and bounds, with time and thorough study unfolding day by day, long sought-for knowledge to be used in controlling disease and lengthening the span of life.

J. B. Duke, the great son of Washington Duke, the pioneer tobacco manufacturer, of Durham, realizing that to live throughout time and eternity, his wealth must be made to function, for the relief of sickness and suffering perpetually, left certain funds which his executors were directed to use in the building of hospitals in the Carolinas. The Duke Hospital at Durham, opened now for only a few months, is one of the best equipped to be found anywhere and in connection with the medical school, has the possibilities of developing into an institution second to none.

Of necessity, medical schools throughout the country gradually began to increase their entrance requirements, as well as the time to be spent in the study of medicine. The significance of the present entrance requirements to medical schools is receiving much attention. With all the preparation and time spent in medical college is it not a question whether the present-day medical student is missing something which formerly he learned through experience, hard knocks, and personal responsibility, leading to wisdom?

Behring perfected diphtheria antitoxin in

1890; Sir Almroth Wright of Dublin soon afterward made typhoid vaccination practical, and Dr. F. F. Russell of the United States Army introduced it into this country. Reed and Carroll discovered the transmission of yellow fever by mosquitoes in 1899. Sir Ronald Ross received the Nobel prize in medicine in 1902, for fixing the *anopheles* mosquito as the carrier of malaria, in 1897. Hoffman discovered *spirochaeta pallida* and proved it to be the cause of syphilis in 1895. Louis Pasteur and Robert Koch were the founders of bacteriology, Koch discovering the *tubercle bacillus*. Other men of the last 40 years were pioneers who will live as long as time lasts.

I would rather have been the man who discovered diphtheria antitoxin and thus have saved the lives of little children than to have been all the kings of past ages. The development of preventive medicine with the saving of lives every day by prevention, and educating the people to avoid sickness owes all to the labors of such men as mentioned. Think of the death rate from typhoid, diphtheria, yellow fever and smallpox during these days. All are now under our control.

We speak of this as the electrical age and the mechanical age but we can, fellow members, speak of it as The Life-Saving Age. There yet remains work to be done, discoveries to be made practical and certain. Cancer must and will be controlled, tuberculosis conquered, hypertension and circulatory diseases mastered as time goes on. Why not? Harder problems have been worked out within our time.

Young man of the profession, envy the educated, ambitious student who is now burning his midnight oil in research work in the laboratory, laboring to find the causes of diseases not yet understood. Many of us at this moment would gladly give our lives, if by so doing we might establish the unmistakable control of cancer which is taking the lives of thousands each day.

DISCUSSION

DR. DAVE TAYLOE, Washington, N. C.:

When a man begins to get a little reminiscent, it appears to me he is getting a little bit old, and he should have asked an old man to discuss his paper instead of myself. However, I have great pleasure in discussing his paper. I recall when I used to

operate in rubber boots instead of rubber gloves, to keep from getting drowned in the operating room. Modern medicine and surgery is a great thing and has made great strides, but I do not give up the old things. Experience is the greatest teacher of all. I recall a great many instances which have served me well. Sims invented instruments which are in use today; Emmet and hosts of others gave us examples that we live by today. The laboratory, the diagnostician, and the instruments of precision are all used with a good deal of comfort to us and a good deal of satisfaction. The doctor of long years of experience, trained to use his eyes, his fingers, his ears and his thought processes was just as essential then as he is today. Of course, he made mistakes, but I have seen the laboratory make mistakes. None of us is infallible. A physician of long experience looks at malignancy and he will not miss it any oftener than the pathologist will; his experience of many years gives him criteria to go by.

Dr. Highsmith is a man who has led instead of following; he is one of the good old men who were blazing the way; it was mighty easy to follow. If you stand at a man's elbow and watch him do things you will be able to go out yourself and do them in a little while, but when you have never seen a thing done and have the courage to go out and do it yourself, then you are blazing the way for others to follow—using your head and not depending on other people. I love medicine; I have never seen the time when I regretted having studied medicine—not for wealth; it has not brought me that; but in the course of long years of work I feel repaid by the friends I have made, the people I have learned to know, human nature as I have found it to be. Going through the woods at night, riding sometimes, walking sometimes (and left on the road sometimes, too), I have always been interested in what was coming next. I often think of our old professors and what odds they had to work against. A young doctor comes now with his instruments of precision to teach us and show us, but we do not give up the things that we have proved and that have been of great value to us all along.

Dr. Highsmith has been of value not only in medicine but in hospital work; he has one of the best equipped hospitals in the country. Not only that; he has given three doctors to the medical profession. I hope his professional mantle, when his time shall come (may it not be for many long years), will fall upon these sons and that they will wear it worthily of their sire.

DR. STUART MCGUIRE, Richmond:

Dr. Highsmith has been good enough to ask me to discuss his paper. I am in the same class as Dr. Highsmith and Dr. Tayloe, so far as age goes and experience goes, but not in the same class so far as oratory goes, because I am not from North Carolina. It is a temptation to be reminiscent, but I have only five minutes, so I shall only suggest a few things.

I wish I could elaborate on what I have to say; I think some day I shall.

We three have been fortunate in many ways. First, in being born before there were many specialists, before many men in North Carolina and Virginia had become surgeons. We ministered to the family, ministered to them for every disease from which they suffered. We delivered the babies, attended the children for mumps and measles and chicken-pox, and attended the parents for the diseases from which they suffered. Thus we learned to know people and learned to sympathize with them in the domestic and financial complications of illness, and we got a basis of diagnosis which is often denied to the surgeon who comes fresh from his hospital experience and begins to practice his specialty.

Then we three were very lucky, too, in starting at the time we did. We started at the end of the old surgical era and did not have to forget old practices. We began at the beginning of the new era and merely had to develop a technic. At the time we began the general principles of asepsis and antiseptics were understood and recognized; the technic of surgery, however, was undeveloped. We had only the Arnold sterilizer, which was not as efficient as the present sterilizer, and therefore used marine sponges, which could be sterilized chemically, instead of gauze. We had no rubber gloves and had to soak our hands in permanganate of potash solutions. We had no hospital facilities and had to do many of our operations in private houses. We had no trained anesthetizers had had to watch our assistants; we had no skilled assistants at all but had to use the family physician instead; we had no trained nurses. But by personally training helpers and supervision of the many details we did manage to do good work. As we look back upon the class of patients that we had, I sometimes wonder whether the modern surgeon could have done any better in those days than we did. Our cases were all neglected cases; they were brought to us in the terminal stages. The family doctor advised operation only when it was the last and only hope. Stone in the kidney was not operated on until it reached the bladder, causing widespread destruction. Osteomyelitis was not operated on until a sequestrum caused sinuses. Tumors were not operated on. I can recall when a woman with an ovarian or a fibroid tumor was sent home with instructions to stay at home and not be operated on until the growth of the tumor threatened her life by pressure causing failure of respiration. In my first year in college there were ten abdominal sections done, and five of the patients died. It was a vicious circle; the longer the delay, the higher the mortality; and the higher the mortality, the longer the delay. Now, with modern instruments of precision, the x-ray, the basal metabolism test, the blood count, and with the early recognition of disease and prompt reference of cases to the surgeon, the modern surgeon has an easy job. He does not know how easy it is. There was a

day, not 40 years ago, when Dr. Highsmith and Dr. Dave Tayloe and I began to practice, when there were not more than three surgeons in the State who were regarded by the people as surgeons. Their names were household words. Today, with the modern development of medical science, there are competent surgeons at every crossroads, and good hospitals. As I say, there has been progress; and we old fellows are glad to make way for the new ones.

DR. ADDISON G. BRENNER, Charlotte:

Gentlemen, I can not appear among the old practitioners, but I recall some of them. I remember some of the doctors who used to come around in the days of ten grains of calomel and rhubarb, and if a patient had anything less than 25 movements to report seemed to be disappointed. There was one old boy who would come around and ask if anybody in the neighborhood had any good French brandy. Everybody thought it was for the patient, of course, and would run around everywhere to find it. This old doctor would pour out a glassful and drink it down and then ask, "How is the patient?" And French brandy was not hard to find in those days, even in my Presbyterian-elder neighborhood. I remember when a doctor who could not remove ingrowing toenails, fit glasses, and deliver babies all was no good at all. I remember how disgusted we were when a young doctor came along and could not do all these things.

I do not fall in this regime at all, but I do remember the old doctor.

DR. J. ALLISON HODGES, Richmond:

It is such a good class to be in that I am glad to show my face with these gentlemen who claim to be of the old school. It is for that reason that I have gotten up here tonight, after I have listened to Dr. Hamman's scholarly and scientific address, going into the refinements of medical practice, and then hearing the remarks of these gentlemen, who have traced the beginnings of science, as it were, and who are big enough men to admit that today the practice of medicine certainly is more refined. But whether it is more successful, on the average, is a question to some of us. That moral or lesson, if you please, Mr. Chairman, is what I have risen to impress, if I may; because I believe there is something in the practice of medicine besides instruments of precision, that there is something that we must feel and know and act if we are to be great doctors. I know, furthermore, this is an unusual time; this is a time of economic distress, world-wide, almost, in its aspects; and I believe if ever there was a time when the other side of medicine besides the mechanical side or the commercial side is to show itself it is in this very day and age, because there is something nobler and higher and more inspiring in the practice of medicine than the fees we make and the people that we serve; it is the heart and spirit. The old school pictured here tonight repre-

sented to a greater degree the love of man for man. It seems we may be forgetting what they knew, and not only knew but practiced—and it is worth something in this day—that when we can give little else, we can give a great deal of heart to our patients as we practice our profession. Furthermore, I believe this; in this day of Federal subsidies and the encroachment of Federal service on the practice of every man, especially the younger men in the profession, they must do something to enlarge their practice, which is gradually slipping away from them, and they must remember that every single man, every single patient, has pathology in his being; and while his practice must be concentrated probably more in the future than ever in the past, there is almost a limitless field for great and deeper and wider study for the good of humankind. While our practice may be disappearing, on the one hand, I believe that with the new knowledge and new learning and new scientific spirit and the better equipment of this age the young man of the future need not be discouraged; he must know that he has a great field before him yet if he will but explore it.

It is very easy for some of us to be so busy that we can not think, but think we must if some of these problems of the future are to be solved, and thinking, to my mind, is a difficult task. But we must think; we must come to such meetings as this. As is stated on the fronts of our programs, Osler says scholars must go to school to teach each other; and that, it seems to me, must be the spirit to teach us to meet and solve some of the problems that confront us and will certainly confront the younger generation in the future. So it seems to me, taking the evening as a whole, it points out that if we are to continue to earn the plaudits of our patients in good service we must study and think and work more and more, with a higher and better sympathy for humankind.

PREGNANCY AND LABOR IN THE ELDERLY PRIMIPARA
(Quigley, J. K., in *American Journal of Obstetrics and Gynecology*, February, 1931)

The management of labor in elderly primiparae is no different from that in young primiparae. A large proportion of these cases will permit of delivery through the pelvis, 89 per cent in this series. In only 2.9 per cent of these patients was the age of the patient the sole factor in deciding for abdominal section and, then, after a trial labor. Two measures: viz., analgesia during the first and second stage and the low cervical section facilitate a thorough trial labor after which it will be found that many patients, such as were formerly subjected to elective cesarean section, can be delivered by the pelvic route.

While pregnancy and labor in the woman having her first child after 30 carries with it an added risk to the mother and her baby, this hazard has been very much overestimated.

IODINE, PITUITRIN, EPISIOTOMY, IMMEDIATE PERINEAL REPAIR

(From the President's Address to the Cincinnati Obstetrical Society, 1929)

C. D. HEISEL, M.D., CINCINNATI

Doubtless you have all seen some patient who overzealously had applied tincture of iodine to some insignificant wound present himself with extensive burns by far more serious than the original hurt. That our efforts to sterilize wounds with strong antiseptics are often futile is plainly evident when one sees a patient whose wound has been diligently treated with this purpose in mind come to the office with the injured part badly inflamed, extensively edematous, throbbing, painful, and with red lines of an extensive lymphangitis plainly apparent. Such wound is thoroughly sealed with dried secretions and sometimes a dry dressing is tightly adherent to the wound. Instead of antiseptics our watchword should rather be drainage. Antiseptics, when applied to a raw surface, are not so nicely balanced chemically as not to give rise to irritation. In some instances they do more damage than good by devitalizing cells, thus encouraging rather than inhibiting bacterial growth. This would not be so bad were the wound surface allowed to remain moist to rid itself of its toxic elements, but feeling secure in the idea that the wound has been sterilized a dry dressing is applied or none at all; sometimes an antiseptic dusting power is used.

When we realize that repair is accomplished by physiologically normal cells and body fluids it is perfectly evident that we should favor the free flow of these elements to, through and out of the wound. Thus the wound is flushed of deleterious substances, the enzymotic action of the body fluids digests loose devitalized particles, and soon repair is established.

To minimize the danger of infection to practically nil and to establish conditions most favorable to wound repair, it is not necessary to use undue efforts at mechanical cleansing, nor is it necessary to apply strong antiseptics. Except where cosmetic effects are of prime importance, a wound not made under surgically clean conditions, should not be closed tightly and not at all unless it be very extensive. An application of some mildly antiseptic ointment of rather heavy consistency, so that it is not absorbed into the dressing, should be laid on thickly, and this in turn covered with an ample gauze dressing. This allows free escape of wound secretions which find their way from under the ointment into the gauze dressing about its edges. The dressings never stick to the wound and the patient usually remarks about the freedom from pain. In wounds already infected, the scab and a necessary number of sutures are removed. The walls are separated where indicated, and the same type of dressing is applied as above described, laying the ointment well into the wound. If there is much edema, abundant hot compresses are applied without removing the under-dressing. Of course, such constitutional diseases as diabetes

mellitus and nephritis must be kept in mind and properly combated. Tetanus antitoxin should be administered when indicated.

This method of treatment has invariably given such excellent results that I have not seen an infection develop in a single case in which it was employed from the beginning. In one of Cincinnati's largest packing plants, where knife wounds and bone scratches are common occurrences, and where the nature of the industry is decidedly conducive to infection, there has not been a single infected wound since 1920, at which time the first-aid man was instructed in this method. Several bad infections occurred in men who refused treatment. One of these cases proved fatal.

Although the obstetrical armamentarium is ever growing in size and in detail, we should always bear in mind the value of patience, which is such a necessary requisite in the practice of this art, as is also the wonder work of nature, whose importance we are loath to acclaim, and whose glory we are wont to take unto ourselves. There are those who too speedily resort to artifice for no other reason than to gain the plaudits of the laymen, thus robbing nature of her glory and crowning themselves with the stolen laurels. Except when done solely with the honest motive of baby's or mother's interest in view, such practices as version, cesarean section or other operative measures should be condemned.

By properly graduated doses of pituitrin one can produce physiologically normal uterine contractions where they are wanting or faulty because of a possible endocrine deficiency of hypophyseal origin. The first dose should always be a trial one of not more than $\frac{1}{4}$ c.c. Depending upon the result of this dose one usually can determine whether to repeat, whether to increase, or whether to withhold it. When it is necessary to repeat, this should not be done oftener than every half-hour.

I have found it of most value in cases where pains are lacking or very ineffectual, of the short, jerky variety with little or no co-operation from the patient. The patient is usually of the neurotic type. In these cases labor may be prolonged for hours with a good-sized bag of fluids protruding through a well-dilated cervix and the head still unengaged. On examination during a pain one finds that the membranes will scarcely become tense enough to make rupturing possible. Five minutes following a $\frac{1}{4}$ c.c. dose of pituitrin the membranes become tense and the head engages. Upon rupture of the membranes a few effectual pains bring the head down on the perineum and in ten or fifteen minutes delivery which might have taken many more hours is ended, certainly to the satisfaction of the mother.

Destructive lesions of the pelvic floor occur more frequently than we know, even when there is no outward evidence of laceration. The pelvic fascia

and muscles are often torn from their bony attachments, and the fact is sometimes not realized until late in life, when the accompanying atrophy allows everything to tumble down, uterus, bladder and rectum. Such lesions, of course, are often due to difficult forceps deliveries, but not always by any means. When a presenting part is pushed by powerful uterine contractions against an unyielding outlet which will not retract, something must give way. Therefore, before the perineum is advanced to the cracking point, it is best by far to make a midline incision.

Perineal lacerations which occur despite every effort at prevention should be repaired immediately before the severed muscle-ends have time to retract.

DYSMENORRHOEA IN COLLEGE WOMEN

(Bell, Margaret, and Persons, Eloise, in *Medical Woman's Journal*)

Dysmenorrhoea in the college woman when not due to pathological conditions can be relieved by suitable exercises and regimen. It occurred in 12 per cent of 840 entering students at the University of Michigan to such a degree that it was incapacitating. Very little pelvic pathology was found in the cases of severe dysmenorrhoea. However, in the group in which the pain was most severe, there were the greatest number of abnormal findings and the greatest percentage of pathological conditions.

Retroversion of the uterus was found in 43 per cent of the cases on preliminary examination. It is interesting to note that in subsequent examinations the uterus was found in normal position. Retroversion was not associated with backache, while backache was associated with acute ante flexion.

In only 5 per cent of cases could the symptoms be satisfactorily explained on the basis of endocrine dysfunction.

IMMUNIZATION AGAINST DIPHTHERIA

(Lees, H. D., in *The Journal-Lancet*, February 15th, 1931)

Diphtheria toxoid is superior to toxin-antitoxin as an immunizing agent. Three doses, given to all children at about one year of age, is our best means of further deducing diphtheria morbidity and mortality.

Reactions following administration of toxoid to children are rarely encountered. It may be safely used as an immunizing agent for adults; reactions in adults are not common.

Approximately 95 per cent of persons gain complete immunity to diphtheria following three injections of toxoid.

The Needs of the School Child From a Nervous Standpoint*

WESLEY TAYLOR, M.D., Greensboro, N. C.

Any treatise dealing with the needs of the school child from a nervous standpoint resolves itself immediately into a discussion of those influences which favor the development of the nervous system in a wholesome manner, and which are therefore to be sought and encouraged, and, on the other hand, those influences which are injurious and destructive, and are accordingly to be removed or avoided. These influences are not limited to school hours, or school days, by any means. They begin with the parents. Our start in life, with the foundations for a well balanced nervous system, including plenty of nervous reserve, depends on what our parents hand down to us. All we can do thereafter is to make the most of the material at hand. There are numerous favorable factors which it is not practicable to discuss. There are many pernicious influences which cannot be removed. Their recognition is all that is necessary. My purpose is to call attention to a few fundamentals on which good nervous health is dependent. Their abuse arises from carelessness and thoughtlessness, rather than from ignorance. In calling attention to these transgressions I have nothing to offer which is not well known to you already. Emphasis will be placed upon a few most neglected principles. Any discussion of the sexual aspect of this subject is beyond the space at my disposal.

Returning to those needs which are influenced by heredity—one or two are worthy of mention because they are not beyond the average parents to furnish. We know the profound influence that alcohol in the parents has on the nervous system of the offspring. This point needs no elaboration. Prenatal influences have been discussed for years with no tangible results from the discussion. Few will deny, however, that the happily expectant mother, impatient to cuddle her new baby, will at least rear a child with a more cheerful, amiable and eventempered disposition than its brother who arrives at an unwelcome hour to find a rebellious mother in a turbulent home. A peaceful and quiet home is probably

the greatest blessing, from a nervous standpoint, that can come to any child.

The most impressionable period of life begins with infancy. As the years pass impressionability diminishes until by the time high school is reached the character and disposition are fairly well formed. Changes after this period are less easily accomplished. The earlier one starts with good influences the more satisfactory will be the results. To gain most, therefore, begin at birth. The nervous system requires careful attention during this plastic stage, if the best results are to be attained. Its disposition and temper, especially are moulded by almost every influence at this time. We must remember that nervous strength has just as definite limits as has physical force, and treat the child accordingly. It is subject to rules as essential to its health and proper development as those which govern the diet of a baby.

A point which arises early in life has to do with children who show a tendency to left-handedness. This is really an enormously important point, in its bearing upon the child's future. I cannot see that being left-handed is anything to worry about. What I do realize is that if parents do not wish their offspring to be or to remain left-handed, this infirmity, failing or defect—call it what you will—should be corrected at once,—and the sooner the better. If it is allowed to go on until the school-teacher discovers it, any attempt to correct it at this late date is little short of crime. Every endeavor to overcome it is associated with enormously increased mental work and a not inconsiderable nervous tension. The reasons are anatomical; the efforts are distressing. The child is slowed-up mentally. Depression, nervousness, irritability and tears are the usual accompaniments; I should call the procedure punishment. I don't believe the results justify the efforts which are necessary. During this plastic, formative period it is of especial importance that the child should not overdo mentally. This point is particularly emphasized on ac-

*Presented by Invitation to Cumberland County (N. C.) Medical Society, Fayetteville, December 18th, 1930.

count of the modern tendency to show off the intellectual accomplishments of our children. They are taught verses, and to sing songs or play on the piano. It is not uncommon to see a fond father hold his youngster to concentrated mental attention over considerable periods, half an hour or more perhaps. This is an enormous strain for a child. When the boy is fatigued there is no rest, no relaxation. It would be almost as reasonable to put a soldier's pack on his back and expect him to march. He is asked to do a man's labor in either case. The father just doesn't appreciate the punishment he is inflicting. It is easy for his trained mind. It became easy through long practice; it wasn't easy when he first began, nor did he learn it all in a few minutes. Then there is another feature likely to be overlooked. We are all familiar with the man who cannot eat strawberries or oysters because they disagree with him or make him sick. Things demanded of a child may be distasteful, possibly they may be actually irritating just as eggs act like poison to a few children.

There are studies in our schools and colleges, which, while easy and attractive to one student, are difficult to another, while to a third they may be distasteful, or even impossible. A young man in my medical class got on splendidly until he came to his human anatomy. This proved so distressing to him that he gave up medicine entirely. Onerous or irritating studies should be avoided. It would seem only reasonable that we consult to a certain extent with the child as to the studies which it pursues. Humor it if possible, within reason. We certainly do not force it to eat food which disagrees with it. Studies which interest will undoubtedly be pursued with less strain, and much better and more thoroughly as well.

Nature did not intend every man to be an athlete. Certainly no one contends that every child, even under most competent instruction, could become a musician. Just as certain is it, that all children are not qualified for an education.

"There is probably no greater fallacy than to regard the education given in our public schools as a cure-all for the many deficiencies of our social and political system. That an enormous increase in nervous and mental disorders is the immediate result of trying to forcibly educate numbers of individuals whose

central nervous systems are functionally unable to withstand the strain imposed upon them is obvious to every one who is competent to pass judgment in such matters. What particular form of education is best adapted to the average child? How far should the Negro be carried in his schooling? Of what degree of mental activity is woman capable without impairing her physical vigor? These are questions of fundamental importance. Who can answer them? Quite as much technical skill and experience is required to form a correct idea as to the functional capacity of the brain as to determine whether or not the heart and lungs are normal"—says Paton. The first duty of an educator should be to determine the latent capacity of the individual and then adapt training as far as possible to meet the needs of the developing nervous system.

A careful physical examination is made of every man before he is recruited to see if he is fit for military training. In nearly every university a complete physical is done on those who desire to compete in intercollegiate sports to determine whether or not muscular exertion might do them harm. Failing to pass satisfactorily they are not permitted to engage in athletics. Such precautions are regarded merely as an application of common sense. Just as it is a physician's duty to warn those with weak hearts or lungs not to overtax those organs, so it is his duty to safeguard the individual against injurious mental efforts.

How many men have had an education forced upon them to which they were mentally, physically, temperamentally, and even socially, unsuited. The indiscriminate imposition of mental tasks on children in our public schools has measurably increased the strain on our already overtaxed hospitals. Quoting Paton further: "The sudden expansion of the mental processes may be as disastrous to an individual as the unexpected acquisition of great wealth. Statistics show an enormous increase in mental disorders in people who suddenly acquire unlooked-for riches. Any rapid alteration of one's situation, upward or downward, is unquestionably fraught with danger."

Out of the first 1,700,000 of our recruits in the late war who were tested *as to their intelligence*, 20 per cent of the entire number fell below the intelligence of a *normal* 12-

years-old boy. That means that one out of every five men drafted for military services was what is known as a moron. On the basis of *intelligence* alone, then, fully one-fifth of our potential school children are unqualified, mentally, for anything excepting the merest rudiments of learning.

The effort to force schooling upon these subnormal children damages an already weak nervous system. They in their turn seek relief from tension in mischief, which is inclined to degenerate into depravity. Then they become a positive menace to the higher and more impressionable type of pupil. They should by all means be segregated. It would help greatly to give them technical training and teach them a useful trade. That would at least aid them to earn their own way. In their ability to take education children are like bottles; some are large and some are small. Those with a small capacity are soon filled. Once full any effort to force in more is absurd. Then there are some children whose intelligence is sufficient but who have no taste for schooling; they do not desire that kind of culture. Efforts to pound book-learning into them reminds one of the old story about leading a horse to water. There are others who desire, and who acquire education, but who cannot use it after they get it. Once upon a time I found my colored office girl standing in front of my diploma, "Dat am Latin, aint it Doctor?", she said. "Yes, Florence that is Latin." "I jes knowed it was. When I graduated from college I could a read it all, I reckon. Once I read all about Mr. Caesar and Mr. Cicero, but I done forgot it all now—Aint it a shame?"

The youngster who is subjected to undue nervous or mental strain, or who does not get sufficient rest and mental relaxation does not develop normally. Disquieting instability is liable to appear later on. Such persons are observed to be erratic and subject to outbursts of temper and lack of control. Attention and memory are frequently impaired and the will power weakened, as shown by lack of persistency and tenacity. Their supply of energy is low, as manifested by shyness and diffidence. They are emotional, unadaptable and difficult to get along with. They have no endurance and do not wear well, as evidenced by the rare instances in which infant prodigies make good in adult life.

The need for very early constructive train-

ing for the sake of what a child can accomplish must not be overlooked. Parents should demand and insist upon obedience. This compels the acquisition of self-control. The control of one's self and one's nerves is a most useful asset. It helps its possessor to economize his nervous energy and to use it to advantage; it prevents hysteria. This point cannot be emphasized too strongly. Most of the purely nervous patients who come to the doctor, come because they are beyond self-control.

Avoid excitement with children; promote the cultivation of regular habits; have them get plenty of rest and sleep—the greatest essential to a robust nervous system. The daily nap is wonderful medicine. If the child doesn't take it, it will usually be found to be the result of too much excitement around the home, more likely immediately preceding the napping period than at any other time. Children who are subject to outbursts of tears should have enforced rest.

One of the most common injustices, done unwittingly and unintentionally, is to start a child to school in the morning upset nervously on account of some agitation in the home before he starts out. He is lucky to regain his composure before his return home. The entire day is not infrequently disturbed. Any highly developed nervous organism has a poor chance to develop efficiency in the tension and discord so often found among high-strung people. As said before, the greatest blessing which can come to a child is to have quiet, serene and happy surroundings at home. The value of such an interior is beyond calculation. I only mention this, as such a situation is beyond the influence of mere advice, though it is possible to start the child to school in the morning without an emotional upset.

Avoid stimulating the emotions. It is easily overdone and nervous and emotional instability almost surely follow. Funerals are dangerous, movies sometimes turn out to be almost as bad. The daily music lesson, so many hours practice regardless, and especially to a child who is not musical, is a nightmare. Music is an expression of the emotions; just look at the accentricities of the average musician and be convinced. Lessons at home at night, in the case of young children, are of most dubious value. After a séance with rebellious problems and books

many children do not sleep satisfactorily; besides it tends to irregular hours. Study and observe this situation if it is present in your home. Don't neglect it a moment.

Too often we lose sight of the physical in our attention to mental development. Especially is this true in the case of girls just blossoming into young womanhood. By this time the child's nervous energies are accustomed to flow along intellectual channels. The energy continues to flow along the accustomed paths. Development continues intellectually. Womanly development is impeded and slowed up and a fine, womanly development fails to materialize. The French and the Germans in particular are much opposed to any considerable education for the developing girl on the ground that good physical development is difficult to combine with high intellectual cultivation. They prefer their women to develop physically at the expense of the intellectual, rather than to sacrifice the physical to intellectual attainments. The subject is well worthy of consideration. There can be no doubt but at this strenuous period a great many girls do not have sufficient nervous reserve to carry both burdens. At such a time a girl should certainly be relieved of all possible nervous tension.

It is perhaps well, at this point, to mention the school examination. It is an abomination, and besides it is not at all necessary, excepting possibly in a few special cases. The amount of real terror it inspires in some cases is impossible to estimate. I had a friend, a schoolmate, later a Major in the U. S. Army, who dreaded even the ordeal of a quiz. I have seen the sweat roll from his face to the floor in small rivulets when the quiz-master started down his row, and on more than one occasion the floor beneath his chin looked as though water had actually been spilled on it. Such a strain on youth will do it no good, if it is not actually injurious.

One source of irritation in the case of a great many students arises from the lack of elasticity in our present-day school system. We try to force every child through the same standardized form of education. One had as well expect one suit of clothing to fit every school child as for one line of study to suit all alike. In order not to be misunderstood I will elaborate for a moment: At the commencement of the school year countless youngsters flow in through the front door.

They represent every degree of intelligence. In Guilford County I have actually found idiots attending the public schools; imbeciles not infrequently manage to get along as far as high school. Only two years ago I found eight of them when I tested the intelligence of the high school pupils in Greensboro. No difference how they managed to get there, the fact remains, and it happens in almost every public school. Then there are precocious children, children who will test up several years in advance of their actual age, youngsters who will lead their classes without opening a book. All these children are started in school and are made to keep step, traveling along the path to learning at the same rate. The slow ones are whipped up and the intelligent ones are held back. It is difficult to do otherwise in our present system of education. They are required to take a prescribed course of studies—eat the same dish of food as it were. Whether these studies are attractive to them or the opposite, whether they are now or ever will be of any value to them does not come into question. Every moral, intellectual, religious and cultural class in American life is represented; even the races are frequently mixed. To adapt one's self to such a conglomeration is beyond an adult. The young child runs against conflicts of every conceivable kind in the midst of such a mess. Many children live in a state of tension all the time. What the eventual outcome of such a continuous state of tension will be is impossible to forecast.

It is possible to illustrate by a few cases where extreme results have been attributed to nervous and mental strain and tension. Two years ago a seven-years-old girl came suffering with sudden attacks of unconsciousness, coming without apparent cause. Some days she would have two or even three spells. They began about the time she first entered school. She was an emotional youngster who took her school very seriously. On taking her from school the seizures ceased at once. When she again returned to school they began immediately and continued as long as she attended classes. After repeating this procedure twice, with the same result each time, she was taken from school permanently. All trouble has ceased and she is apparently well. When she has lessons at home she is not disturbed. Her trouble probably came from

a too continuous emotional strain. A number of years ago a boy began to have epileptiform fits. They came every Sunday morning about 10 o'clock. Most careful investigation revealed that the family visited the movies Saturday nights only. The boy was sent to the movie on Friday night to observe the effect. The attack followed on Saturday morning this time. As soon as proper glasses were given the attacks ceased and have never returned. If the strain incident to a defect of vision was not the cause of these attacks it would be difficult to say what was.

Epilepsy itself is, in my opinion, only a symptom of nervous irritation, not a disease. To do anything for it, first find the irritating cause, if that is possible. Many nervous irritants which develop in connection with school might easily go so far as to cause similar outbursts. A case came to light recent where a 16-years-old girl began having attacks very suggestive of epilepsy. She was a child who had been repressed all her life, submerging a very positive personality under the influence of her self-willed parents. When the emotional tension let loose and she could relax her trouble ceased entirely.

These cases are mentioned merely to show to what extreme limits nervous and mental conflicts, fears, worries, tension and fatigue

may lead. Their results are bad enough in adults; in children they are much worse. Just how far down the years the effects may reach is not easy to say. One might easily expect the scars to be permanent. Forcing children to adapt themselves, against their natural inclinations, and to practically impossible situations, causes revulsions which may be manifested in innumerable ways. These manifestations almost invariably seek expression along nervous channels. The whole train of symptoms is too varied to classify. It include mental irritability, depression, nervousness, twitchings, incontinence, disturbances of memory, of sleep, of digestion and of nutrition.

The point I wish to emphasize is that irritation of whatever sort, whether it be of emotional origin, from efforts to adjust, from fatigue, from strain, or mental anguish, or fear, is injurious to the nervous system of the impressionable child. It has also been shown that other apparently lesser irritants go to the extreme limit of nervous explosions and unconscious attacks in children.

The greatest need of the school child—in fact of any child—is the simple life, free from strain and excitement and with plenty of rest and sleep. Less tension : more relaxation.

Experiences With Spinal Anesthesia*

DOUGLAS JENNINGS, M.D., Bennettsville, S. C.

Marlboro County General Hospital

Briefly, the history of spinal anesthesia might be summed up by saying that Corning first performed lumbar puncture in 1884; that Matas of New Orleans first operated in America in 1899 with this form of anesthesia; and that Babcock in Philadelphia was the first to adopt it routinely in 1904, and has employed it over 20,000 times. My own limited experience with spinal anesthesia extends back only to July, 1929, less than two years ago, since which time I have used it in approximately 400 cases.

Since the enthusiastic reception accorded this method of painless surgery numerous preparations and methods of administration have appeared. Among these preparations

are novocaine, neocaine, spinocaine and nupercaine, all chiefly procaine derivatives. Among the methods of administration the most prominent are the posture-control technique, the volume-control technique, the pressure-control technique, and the Labat technique. The posture-control is that originated and worked out by Dr. George P. Pitkin of New Jersey. It is the method which I have usually employed, though I have used the Labat technique, and in giving my experience with spinal anesthesia I must go somewhat at length into the discussion of this procedure.

The preparations used in my work have been spinocaine for general surgery and

*Presented by Invitation to Scotland County (N. C.) Medical Society, Wagram, February, 1931.

gravocaine for obstetrics. Spinocaine is a solution of novocaine, strychnine, alcohol, and amyloprolamine, a wheat starch derivative. The alcohol is present to render the solution lighter than spinal fluid so that when the patient is placed in the Trendelenburg position the solution floats on the spinal fluid after the fashion of a spirit level and remains in the caudal end of the spinal canal. The height of anesthesia on the body surface is proportionate to the degree of elevation of the hips and the volume to which the solution has been expanded. The amyloprolamine solvent reduces the toxicity of novocaine, prolongs the absorption of the solution and therefore lengthens the duration of anesthesia, and prevents dissemination of the anesthetic solution in the spinal fluid. Strychnine is added as a stimulant to the vasomotor constrictors. Ephedrine is used preliminarily always to prevent a drop in blood pressure. Gravocaine is the same solution as spinocaine except that glucose is substituted for alcohol to increase the specific gravity and the novocaine is increased from 10 to 40 per cent. This preparation, when introduced into the lower spinal canal and the patient placed in the Fowler position, gravitates to the lowest end of the spinal canal and bathes the caudal fibres, producing anesthesia of the vagina, perineum, cervix, bladder, rectum, and a strip down the inner side of the thigh for about six inches. It is therefore ideal for obstetrical work, not interfering with the uterus above the cervix.

Spinal anesthesia has had many undesirable features which prevented its acceptance by the profession as a safe and reliable procedure. The duration was so uncertain one did not know whether it would last a few minutes or an hour; the intensity varied greatly; failures were frequent; nausea and vomiting were usual; relaxation of the sphincters produced troublesome soiling of the table and drapes. Patients frequently complained of headache, sweating was profuse, pallor was alarming, air hunger was sometimes marked, asphyxia was often profound, and the height of anesthesia on the body was beyond control. Secondary complications were frequent—headache upon sitting up or raising the head, sphincter paralysis, vertigo, palsies, localized areas of anesthesia

or paresthesia, stiffness of the back or neck muscles, temporary blindness, and so on. with the perfection of present day technique and improvement in the anesthetic solutions we have none of these unpleasant and dangerous symptoms with which to deal. In my series of about 400 anesthetics I have had only one case in which alarming symptoms developed. This woman collapsed and evidently came near bleeding to death in her own venous system, a complete dilatation of the vasomotor mechanism. She was revived after using ephedrine, caffeine, adrenaline and salt solution intravenously, oxygen and carbon dioxide inhalations, and artificial respiration. She later gave me a history of novocaine sensitization, saying that she had fainted on two occasions as soon as novocaine was injected into the gums for the extraction of teeth. I have since kept intravenous solution of barbitol handy for fear of a repetition of this near-calamity, but have not had to use it. By always employing the same drug of known purity, by strict antiseptic technique and by atraumatic puncture, it is possible to limit the after-symptoms to those associated with a fall in blood pressure, and this can be controlled to a great extent by the preliminary injection of ephedrine. For some time I accurately checked the blood pressure reading before and immediately after spinal anesthesia injections, but finding the drop negligible when ephedrine was used preliminarily, I have discontinued all except the initial blood pressure reading on the admission of the patient. Many patients complain of nausea but few really vomit. Slightly lowering the head and instructing the patient to breathe deeply a few times has improved this. Of the intermediate complications headache is the most frequent. Many of my patients have complained of this for a few hours; in only one case did it persist long enough to cause me any uneasiness. This patient, a prominent woman, complained of headache upon raising up which persisted for 10 days but passed off untreated. This condition was probably due to loss in spinal fluid pressure occasioned by a leak into the tissues at the puncture site, and might have occurred, as it often does, following simple spinal puncture when no anesthetic solution is injected. One of my patients had foot-drop, without pain, four weeks

after operation, which has disappeared without trace and was probably due to injury or irritation of the anterior nerve root, a faulty lumbar puncture. These three cases constitute my complications in 400 anesthetics.

I have given you a resumé of the bad effects I have encountered, now let me list the advantages of spinal anesthesia over general inhalation anesthesia, not those which we are said to secure but those which I have personally and repeatedly noted. This anesthesia may be administered, usually is, by the surgeon himself, thus eliminating the necessity of one assistant in the operating room, a great economic advantage to the small hospital. However, in most cases, I have had my anesthesiologist present to keep the patient encouraged and assured and to divert attention from the operation—and here let me say that I have enjoyed the services of a past master in this art. Another advantage is that anesthesia is quickly secured, usually in from one to three minutes. It has been complete in about 95 per cent of my cases and lasts from an hour and a half to two hours, giving ample time for even the longest operative procedures. The patients suffer from no shock or serious drop in blood pressure and there is no danger of strangulation or swallowing the tongue as in general anesthesia. The anesthesia may be confined to any level or carried as high on the body surface as desired, even confined to one side if preferred. I have not used spinal anesthesia above the level of the diaphragm, but it has been used and is being advocated for surgery of the head, neck and thorax. This form of anesthesia eliminates completely such post-anesthetic complications as pneumonia, acidosis and nephritis. It does not affect the heart, liver, kidneys, or lungs, and intestinal complications are reduced to a minimum.

In the days when I used ether routinely for abdominal surgery I was frequently troubled by postanesthetic vomiting, dilatation of the stomach, paralytic ileus and distension, and often resorted to enterostomy to save the patient. Now I rarely do enterostomy save in the occasional general peritonitic case for toxic ileus. Boland of Atlanta has reported several cases in which toxic or paralytic ileus was successfully treated by spinal anesthesia since this agent causes an increase in the

muscular tone of the intestinal wall, increasing peristalsis rather than further relaxing the gut musculature as does ether. I have successfully handled one case of toxic paralytic ileus associated with pneumonia by one spinal injection, a patient who was extremely distended to the embarrassment of respiration and the heart's action. Dehydration is not produced by this anesthesia, a distinct advantage in eclampsia, toxemia, and acidosis where fluids are essential.

In obstetrics, asphyxiation and cyanosis of the baby is rare and when present is not due to the anesthesia. The patient's comfort during and after operation or delivery is greatly increased. There is no lowering of resistance for fluids and nourishment may be taken immediately after operation. In fact I frequently give water and cracked ice during operation. In obstetrics postpartum hemorrhage is less frequent provided the heavy solution is used and anesthesia confined to the caudal fibres. The cervix and perineum are markedly relaxed thus protecting them from trauma. The bladder tone is retained. The cervix is much more easily dilated than with general anesthesia.

As for the indications, I consider that spinal anesthesia comes nearer fulfilling the requirements of the ideal anesthetic agent and method for all surgery below the diaphragm than any other. I have used it in the very young, the middle-aged, the old, and even in the aged, with excellent results. It has, as far as I know, no contraindications other than local infection at the puncture site, cerebellar tumors, and meningitis. It is especially indicated in intestinal obstruction, paralytic ileus, advanced heart disease, nephritis, pulmonary and bronchial irritations and in hypertension. The type of operation makes no difference. During the past few months I have used Pitkin's method of subarachnoid block in approximately two hundred cases as follows:

Cholecystectomy	2
Gastroenterostomy or partial gastrectomy.....	2
Appendectomy	57
Nephrectomy	1
Prostatectomy	5
Salpingectomy or oophorectomy or both.....	28
Tubal pregnancy	2
Abdominal hysterectomy	16
Vaginal hysterectomy	2

Ligation fallopian tubes	3
Suspension uterus	5
Repair or amputation cervix	12
Dilatation and curettage	17
Resection gangrenous intestine	7
Herniorrhaphy	5
Hemorrhoidectomy	5
Orchidectomy	1
Transsacral resection of rectum for carcinoma	1
Resection sigmoid	1
Colostomy	1
Myomectomy	1
Amputation leg	1
Amputation thigh (diabetic gangrene)	2
Open reduction fracture tibia and fibula	1
Bone graft leg or thigh	4
Cesarean section	5
Repair vesico-vaginal fistula	1
Delivery by version (toxemia)	6
Exploratory laparotomy	3
Perineorrhaphy	3
Repair ruptured uterus	1
Delivery hydatidiform mole	1
Closure perforations intestine	3
Epididymotomy	1
Repair hypospadias	2

CONCLUSION

My results with Pitkin's method of spinal anesthesia have been excellent. Controllable anesthesia by this method is so safe and effective as to deserve first consideration for all operations below the diaphragm. One word of warning is in order, however. Casual consideration of the subject and hurried reading

of the technique may lead one to think it is an easy thing to attempt. It takes much study and practice before one is familiar with the procedure in detail, there is much confusing disagreement among the authorities as to the efficacy of the various methods and preparations, and one should not unpreparedly make it a routine feature of his work.

References

- PITKIN, GEO. P.: Controllable Spinal Anesthesia. *Amer. Jour. Surgery*, Dec., 1928.
- KOSTER, HARRY: Spinal Anesthesia. *Amer. Jour. Surgery*, Dec., 1928.
- PITKIN, GEO. P., and MCCORMACK, F. C.: Controllable Spinal Anesthesia in Obstetrics. *Surg., Gyn. and Obs.*, Nov., 1928.
- PITKIN, GEO. P.: Spinocaine — Gravocaine — The Controllable Spinal Anesthetics. *Jour. Med. Soc. N. J.*, 1929.
- KOSTER, HARRY, and KASMAN, LOUIS: Spinal Anesthesia for the Head, Neck and Thorax. *Surg., Gyn. and Obs.*, Nov., 1929.
- LABAT, GASTON: *Nelson Loose-Leaf Surgery*. Thos. Nelson & Sons.
- BABCOCK, W. W.: Spinal Anesthesia—An Experience of Twenty-four Years. *Amer. Jour. Surgery*, Dec., 1928.
- EVANS, CHAS. H.: Possible Complications with Spinal Anesthesia. *Amer. Jour. Surgery*, Dec., 1928.
- MCCORMACK, FRANK C.: Postoperative Phases of Spinal Anesthesia. *Amer. Jour. Surg.*, Dec., 1928.
- DECOURCY, J. L.: Newer Methods of Controllable Spinal Anesthesia. *Amer. Jour. Surg.*, Dec., 1928.
- EDITORIAL: Past, Present and Future of Spinal Anesthesia. *Amer. Jour. Surgery*, Dec., 1928.

Recent Advances in the Treatment of Eclampsia*

W. Z. BRADFORD, M.D., Charlotte, N. C.

Eclampsia continues to be one of the baffling problems confronting the obstetrician, because, although a definite clinical entity marked by characteristic symptoms and confirmed by definite pathological changes, its etiology is still unknown. Various theories have in turn been advanced to explain this obstetrical complication which, in this country, annually exacts from 4000 to 5000 maternal lives, to say nothing of the high fetal mortality. In this file are found many broad terms that bear the cross of our ignorance camouflaged under such generalizations as

acidosis, anaphylaxis, intestinal autointoxication, metabolic defaults, depletion of calcium salts and placental toxins.

In the treatment of this disease are found an equal number of procedures which by their very number attest their slight value. These may be classified into three groups. During the last quarter of a century the treatment of eclampsia has vacillated between two extreme views. On the one hand is found the Stroganoff school, the extreme conservatists, who ignore the fetus in utero, and the parousness of the woman, and concentrate all their

*Presented to the Mecklenburg County (N. C.) Medical Society, Charlotte, February 2nd, 1931.

efforts toward intestinal elimination and overcoming the maternal hyperirritability by the administration of morphine and various other sedatives in large doses.¹ On the other hand we find the radical school championed by German obstetricians who advocate the prompt removal from the uterus of the product of gestation, regarded by them as the sole cause of the maternal distress. Accouchement forcé, bag inductions, mechanical dilation of the cervix, Dührssen incisions, vaginal and abdominal cesarean sections—all are measures made use of under different circumstances by this school.

The third group includes most English and American obstetricians who, having modified Stronganoff's teachings by the addition of the lessons learned from their own experimental work, have made most of the recent advances in the treatment of eclampsia. Following is a tabulation of the results obtained in different clinics under various forms of therapy:

CLINIC	No. Cases	Maternal Mortality %
Stroganoff	300	Conservative... 2.6
Stoeckel (Leipzig)	119	Radical..... 8.4
Davis (N. Y. Lying-In) ...	370	" 20.0
"	149	Conservative... 15.0
Miller (New Orleans)	138	Radical..... 47.8
"	38	Conservative... 15.8
Williams (Hopkins)	110	Radical..... 22.8
"	198	Conservative... 13.6
Powitzer (Berlin).....	245	Mixed..... 18.0
Rotunda Hospital	214	Conservative... 8.8
Stockholm	102	" 10.8
Barnes Hosp. (St. Louis) ..	186	" 7.0
DeLee (Chicago)		" 7.7

Aside from the extremely low mortality in Stronganoff's series, a percentage that has not yet been duplicated in any quarter of the globe, these statistics reveal a more favorable prognosis in the hands of conservative obstetricians. This is especially noted in clinics where series of cases have been treated by both methods.

For the sake of brevity we will regard pre-eclamptic toxemia and eclampsia as different degrees of the same disease, the early phases of which call for a policy of therapy with which most authorities are found to be in agreement. A diet reduced in proteins, covered by the well-known dictum "no meat, no

fish, no eggs", thorough intestinal elimination, a high fluid intake, colonic irrigations and close observation are of paramount importance. Intelligent prenatal supervision will lead to the recognition and prevention of many cases that would doubtless proceed to a serious and even fatal outcome. If there is no response to this treatment, or if when seen for the first time the patient is in convulsions or presents the prodromal symptoms of true eclampsia, more active treatment is necessary. The general treatment consists of, first, placing the patient in a quiet, darkened room to isolate her from all excitants, second, protection of the tongue during convulsions, third, keeping the upper respiratory passages clear as a preventive of bronchopneumonia and pulmonary atelectasis.

The value of opiates in the treatment of eclampsia is well established. A glance at the records of the Rotunda Hospital in Dublin shows a sudden fall in maternal mortality in 1907 when Dr. Tweedy assumed the Mastership and instituted the Dublin method in the treatment of eclampsia consisting chiefly of morphinization to 2 grains in 24 hours if necessary².

Chloral hydrate in large and frequently repeated doses has been used with fair success, when accompanied by morphine. Dr. Williams advocates its use in small enemata beginning with 30 grains and repeated every six hours³.

Outstanding among the newer sedatives are magnesium sulphate and sodium amytal. The former was first exploited by Dorsett of St. Louis in 1923⁴. His attention was first attracted to its possibilities by a report of eight cases recovered from tetanus in which the drug was used with tetanus serum. The drug is usually administered in 10 c.c. doses of a 20 per cent solution and repeated in one or two hours if convulsions continue. Its use has been combined with other medications to such a degree that its efficacy has yet to be definitely established. A severe setback to the use of magnesium sulphate was incurred following Stander's experimental studies in 1928 on the effect of this drug upon dogs⁵. While the equivalent of 6.5 grams per 150 pounds produced no harm, dosages slightly higher consistently produced liver damage in these animals. Central necrosis in the central portion of the liver lobules as well as moderate degeneration in the convoluted tubules of the kidneys were noted. Also a 20 per cent

sol. intravenously proved suddenly fatal to several dogs.

Sodium amytal (sodium-iso-amyl-ethyl-barbiturate) was first synthesized by Shonle in 1923 and subsequently used in obstetrics by Dr. A. M. Mendenhall of the University of Indiana School of Medicine. Dr. Mendenhall has reported its use in a series of eclamptic cases with excellent results, and his findings have been confirmed by other investigators. The prompt control of eclamptic convulsions without jeopardy to the eliminative organs is a definite stride forward in the handling of this disease and, while in no way curative, it is a most important factor in the treatment of eclampsia. The amount of sodium amytal required to produce a given effect will vary with individual patients. The intravenous dosage is from 6 to 15 grains depending upon body weight given in a 10 per cent sol. of triple distilled water at a rate not to exceed 1 c.c. per minute and accompanied by close observation of the blood pressure. A fall of 20 to 40 mm. Hg. may occur if administration is too rapid. It has been our policy to place the bed in a slight Trendelenburg position before giving the drug and never to use it in cases in which there is hypotension. Sodium amytal produces no changes in the blood chemistry or urine and apparently has little or no effect upon the kidneys while observations of the red cells have shown no hemolysis.

Glucose has more recently been employed intravenously as a therapeutic agent in eclampsia and, following the work of Dr. Paul Titus⁶ of Pittsburgh who first advanced the glycogen deficiency theory of pregnancy toxemias, has been used as a specific rather than an empirical agent. Dr. Williams of Hopkins once stated that the following pathological and clinical facts must be explained by any theory of eclampsia before it could gain acceptance: first, the genesis of the characteristic hepatic lesion; second, the predisposing influence of primiparousness, multiple pregnancy, and hydramnios; third, the more common occurrence of the disease in northern countries than in the tropics; fourth, increased incidence as pregnancy approaches term; fifth, the favorable influence of marked edema while its absence adds to the gravity of the prognosis; sixth, that intrauterine death of the fetus is usually followed by improvement;

seventh, that a milk diet while high in protein and minerals is as efficacious as low protein salt-free diet.

In reply to this criterion Titus advanced his theory, which is, briefly, that insufficient carbohydrate intake in the maternal diet, plus the sudden and extraordinary demands of fetal and placental growth and uterine hypertrophy, cause a deficiency in the body tissues especially noted in the liver. This may be either a slowly progressive process or there may be acute and even fulminating phases.

The liver lesions are explained as being the result of excessive glycogen depletion of the hepatic cells and the replacement of glycogen by fat, tantamount to necrosis. This may be duplicated by starvation and has been produced experimentally by giving repeated doses of insulin to animals over a number of days. The absence of eclampsia in the tropics is explained by the high carbohydrate and low protein diet characteristic of this region. On the basis of this theory Titus demonstrated wide variations in blood sugar levels in eclampsia, with convulsions almost invariably preceded by a sharp fall in blood sugar. This established the rationale of therapy in which intravenous glucose is used in large and repeated doses. Stander of Hopkins was unable to confirm Titus' work.⁷

In St. Louis at the Barnes Hospital Schwartz and Diekman experimentally showed that the injection of fibrinogen into the portal circulation of dogs produced marked portal thrombosis followed by peripheral necrosis and hemorrhage into the liver lobules resembling the typical eclamptic lesion⁸. It has been proven that the absorption of protein substances and of unsplit amino-acids are increased in pregnancy as well as in all cases of increased intraabdominal pressure. Concentration in the portal circulation of substances absorbed from the intestinal tract possibly explains the efficacy of thorough intestinal elimination, colonic irrigations, and limitation of protein diet⁹.

The present status of cesarean section in the treatment of eclampsia deserves mention. Humpstone¹⁰ reports a maternal mortality of 14 per cent in all cases of eclampsia and of 33 per cent in those cases treated by section in the Methodist Maternity Hospital of Brooklyn. This further demonstrates the generally accepted fact that a patient in convulsions has

ceased to be a suitable case for abdominal surgery except in absolute contraction of the pelvis and the rare primipara in the ninth month of pregnancy, with a live baby, and a long undilated cervix, who has not responded to vigorous treatment. It is here that sodium amytal is probably the anesthetic of choice.

The therapy of eclampsia is today regarded as primarily medical. Aside from the early termination of the second stage of labor the best results may be expected from a conservative approach to the problem.

The recent advances in the treatment of eclampsia consist of:

1. The value of adequate prenatal care in reducing the frequency of this disease.
2. The promise of sodium amytal in the symptomatic treatment of the disease.
3. The use of intravenous glucose as a specific.
4. The experimental demonstration of the value of rigid intestinal elimination.

References

1. STROGANOFF: Treatment of Eclampsia, 1930.
2. MASILL: Thirty-six Years Work at the Rotunda Hospital. *Irish Journal of Medical Science*, Feb. and March, 1927.
3. WILLIAMS: Treatment of Eclampsia. *J. A. M. A.*, Feb., 1927.
4. DORSETT: Intramuscular Injection of Magnesium Sulphate. *A. J. Ob. and Gyn.*, 1926.
5. STANDER: Effect of Intravenous Administration of Magnesium Sulphate. *J. A. M. A.*, Feb., 1929.
6. TITUS and WILLETS: Fluctuations in Blood Sugar During Eclampsia. *Amer. Jour. Ob. and Gyn.*, July, 1929.
7. STANDER and HARRISON: Carbohydrate Metabolism in Eclampsia. *Amer. Jour. Ob. and Gyn.*, July, 1929.
8. DIEKMANN: Hepatic Lesion in Eclampsia. *Amer. Jour. Ob. and Gyn.*, April, 1929.
9. SCHWARTZ and DIEKMAN: Imp. Procedures in the Conservative Treatment of Eclampsia. *Amer. Jour. Ob. and Gyn.*, July, 1929.
10. HUMPHSTONE: Survey of Cesarean Section. *Amer. Jour. Ob. and Gyn.*, May, 1929.

The Orthopedic Care and Treatment of Acute and Chronic Anterior Poliomyelitis*

R. A. BLAKEY, M.D., Greenville, S. C.

The management of a case of poliomyelitis is so highly specialized that for the sake of future function it would seem best in every case to have the treatment as early as possible reviewed by an orthopedic consultant.

In early times it was thought that the disease always resulted in paralysis, and that a fatal termination was rare. Today we know that paralysis does not always occur and that death not infrequently results, this in spite of the progress that has been made in the early diagnosis and handling of this condition.

The treatment of poliomyelitis may be divided into four forms:

1. Symptomatic—used in the early febrile stage.
2. Preventive (as to paralysis)—used in the early febrile stage in the hope of preventing paralysis or checking it during the ensuing two to four weeks, in hopes that the pa-

ralysis will clear up or cease to progress.

3. Mechano-therapeutic—carried out during the early paralytic period when the muscles are recovering. This closely follows the abatement of the acute stage.

4. Surgical—used chiefly in the late paralytic period when the deformities have become more or less fixed, when the joints have become unstable and a definite muscle unbalance tends to increase the deformity.

In the acute stage, while tenderness persists, the important thing is recumbency. Any attempt at stimulating muscle function is harmful.

Serum has its place before the onset of paralysis, after then it is extremely doubtful whether it will check or prevent its spread as the virus is by now established in the anterior horn cells. Urotropin is advocated by some during this stage, as it has been observed that it has a neutralizing action on the

*Presented to the Greenville County (S. C.) Medical Society, meeting at Greenville, February 2nd, 1931.

virus. Just to what extent this is true is still under discussion. Therapeutic spinal puncture is extremely helpful at this stage, among its advocates being Royal Whitman, Wallace, Sneed and Stephens—claiming that the edema in the cord is reduced, this in turn preventing a pressure necrosis of the anterior horn cells.

The subsidence of tenderness is helped after the third week by immersing the patient while on a sheet into a hot bath, and apparently further hastened by the use of thermal light on the tender areas.

The disappearance of tenderness marks the beginning of the stage of convalescence, which may be said to last anywhere from six months to two years, some patients recovering all they will in six months, others under conservative treatment progressing much more slowly. Some observers claim that all the function that is to return will become evident by the end of six months and that whatever paralysis then remains will be permanent. However, I think most orthopedic men prefer to wait at least one year and a half, or better still, two years after the attack before beginning surgical procedures.

Deformity is the greatest factor that we have to deal with in poliomyelitis, for we are dealing with a child who has his whole life before him, and whose mental outlook as well as physical welfare may be decidedly influenced by a defective physical makeup, and we should take advantage of every aid to prevent that child from becoming a cripple. The majority of most deformities can be prevented or greatly limited. Muscle unbalance, that is, a good muscle pulling or acting against a weakened or paralyzed one, is the chief factor in the development of deformities. With our knowledge of muscle balance it is fairly easy to predict the exact deformities that will develop when group paralysis occurs.

It is of the utmost importance to prevent foot drop, knee flexion, flexion of the hip, adduction of the arm and other deformities. This may usually be done without causing discomfort. When paralysis is extensive in the extremities or body I prefer a light plaster Paris cast which can be bivalved and physiotherapy carried out daily. One should never let the healthy antagonist muscle contract at the expense of the affected one.

The more common deformities are:

1. Foot—varus, valgus, equino-varus, equino-valgus, calcaneus, calcaneo-valgus.
2. Knee—flexion, adduction, genu recurvatum.
3. Hip—flexion, luxation.
4. Hand—flexion of the fingers and wrist, extension of the wrist and claw hand.
5. Shoulder—adduction.
6. Trunk—scoliosis.

The proper anatomical positions are: foot at a right angle, knee on an even plane, leg abducted, spine hyperextended, shoulder abducted, elbow flexed, forearm supine, and wrist dorsiflexed.

Measures to prevent deformity should be carried out during the first few weeks, even before the extent and exact location of the paralysis can be determined. Fracture boards under the bed and a small pillow under the shoulders will keep the spine in good position. The feet should be kept at right angles by a padded box or some other device. A cradle over the legs to prevent the cover from causing a plantar flexion is desirable. In extensive paralysis involving both legs it is best as soon as the condition permits to apply plaster of Paris, bivalving after a few days to permit physiotherapy. In very severe cases it is best to wait until some of the parts have recovered before applying the plaster. The greatest return of muscle power takes place in the first six weeks.

Much harm may be done by allowing the child to sit up or bear weight with a limb held in the incorrect position. At this time it is best if the balance is good, but if a weakness persists, to fit a light brace on the patient to prevent fatigue. If the muscle balance is not good because of an unopposed muscle pull, then a brace must be worn to maintain the parts in overcorrection.

Among the therapeutic measures which will aid in the return of power are heliotherapy, massage, hydrotherapy and sinusoidal current. Massage may be started as soon as all tenderness has gone and should be given daily. This may and should be preceded by some form of radiant light. Daily immersion in warm water in which exercises, with the force of gravity removed, may be carried out, is very helpful, and the young patient looks forward to his daily swim.

Muscle training plays a most important part in the return of function. The patient is trained to make each muscle perform its work to bring about the customary movement. This requires patience, perseverance, and optimism in securing good results. The prognosis depends upon the age and general makeup of the patient. This may be started when all pain, tenderness and pyrexia have subsided, and carried out over a period of months.

Braces are to be used when the patient walks or stands in a malposition or where he cannot stand or walk without them. It must be remembered that the brace is not a cure but is merely worn to aid in the prevention of further deformity and to enable the patient to get about more comfortably.

The late or chronic stage may be considered as beginning a year and one-half to two years after the attack. Improvement under conservative treatment has stopped. The child is probably wearing a protective brace, either to aid in walking or prevent deformity. The treatment now becomes surgical and we are able in many cases to increase function and restore power in limbs by means of specialized procedures as, tenotomies, tendon lengthening and shortening, tendon transplantation, osteotomies, stretchings, astragalectomies and certain stabilizing procedures.

Generally surgical aid should be postponed until the child is seven or eight years of age, for procedures before this age may turn out to be unnecessary or not sufficient when the child is older. Of course there are exceptions to this in which operative procedures are indicated at any age.

The most common contractures are adduction contraction of the shoulder, flexion contraction of the hip, flexion contraction of the knee, knock-knee, and contraction of the foot in many positions, or a flail foot in the event all muscles in the leg are gone. Scoliosis of the spine also comes under this category. At the present time one or more operations may be required to correct the deformity with the aim of relieving the patient from braces or making them less burdensome.

Contractures can be removed by simple stretching in the milder cases, but a division of the fascia, muscles, or tendons may be necessary in the severer cases. Where weight-bearing instability exists, arthrodesis or astragalectomy will be required. Tendon transplantation in the hands of some has been exceedingly gratifying but in the hands of others has been disappointing. Nerve operations have so far proved disappointing.

The more frequent operations are arthrodesis of the shoulder joint, fusion of the spine, stripping (Soutter) operation at the hip joint, transplantation of the biceps into the quadriceps to restore extension of the leg and to aid in stabilizing the knee, and arthrodesis of the ankle joint as advocated by Hoke, or astragalectomy as advocated by Whitman, and transplantation of the flexors of the wrist in such a manner as to make them act as extensors.

References

- ROYAL WHITMAN: Orthopedic Surgery.
MACAUSLAND: Anterior Poliomyelitis.
JONES and LOVETT: Orthopedic Surgery.



Fractures of the Os Calcis*

J. WARREN WHITE, M.D., Greenville, S. C.

In the management of fractures the employment of methods which have traction or extension as their objective is the most important and valuable factor in obtaining satisfactory reduction. It is where this agency cannot be employed that difficulties are encountered in acquiring satisfactory reposition of the fragments. One of the most difficult deformities to correct and maintain corrected against the pull of tremendous muscle power is the upward, or proximal, displacement of the posterior portion of the os calcis.

It is because of this difficulty after the usual oblique fracture that, before the days of what is generally known as skeletal traction, the prognosis in fractures of this bone was poor, and to get a useful, painless foot an arthrodesis of the subastragaloid joint was practically always necessary, where there was any considerable displacement. There are two major distinct reasons why painful weight-bearing feet resulted from this injury. The first, and probably most important, is that the shallow doubly articulated joint, between the os calcis and the astragalus is commonly involved in the fracture, and its nice mechanism is disturbed; and, second, the weight-bearing point of the posterior part of the foot is raised, resulting in a true anatomically flat foot, which produces an unnatural weight-bearing strain on the longitudinal arch with the usual train of symptoms of a weak foot with which we are all too familiar. The lateral flattening of the tuberosity in the sagittal plane of the body is another common deformity. This can be usually corrected by careful moulding, using a mallet or the ingenious vise devised by Böhler. This results in a certain amount of impaction of the fragments, and as there is no force tending to widen the heel again it remains corrected.

My interest in the treatment of fractures of the os calcis was stimulated by a paper that I heard Böhler read at the last meeting of the American Orthopedic Society convening in Boston last June. In this paper he advocated the use of two pins in conjunction with a

rather complicated frame built for this sole purpose. One pin went through the os calcis and the other behind the tibia, just above the ankle, acting as a support, rather than a point of countertraction. After hearing this paper I wondered why I could not combine this procedure with the principle of double skeletal traction, which I employed in my leg-lengthening operations, described in the *Journal of Bone and Joint Surgery* in January, 1930¹. The article² of Böhler's was finally published in the recent number of the *Journal of Bone and Joint Surgery*, and has been considerably embellished since it was read, so much so that it comes very close to the technic that I have developed.

My idea in combining Böhler's skeletal traction with my double bone pin traction was to allow my patients to be ambulatory in a short time after the reduction. I had an opportunity to put this idea into practice, and I think it varies enough from Böhler's procedure to warrant reporting. It at least will call attention once more to its value.

I shall not attempt to discuss the dangers or disadvantages of employing pins as that is a subject apart from this paper, except to state that the tremendous advantage of skeletal traction is now being universally recognized and it is being used extensively, with no dire results in experienced hands.

The technic of my procedure is as follows: General or spinal anesthesia is employed as the procedure is too extensive to make use of local anesthesia satisfactorily, and after the moulding of the os calcis, if it is abnormally widened, a pin is driven through the posterior portion of its tuberosity. Another pin is passed through the tibial crest transversely, one-half or three-quarters of an inch posterior to the prominent, almost subcutaneous crest, where it is so accessible just above the junction of the middle and distal thirds. The patient is placed in the dorsal, recumbent position with the legs held by the regular operating table leg holders behind the knees.

With the pins in place and the assistant maintaining 25 to 30 pounds traction, pre-

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

ferably measured on a spring balance on the distal pin through the os calcis, the leg hold-holder serving for counter traction, plaster is applied from the ends of the toes to a point just distal to the knee with the foot in possibly 20 degrees equinus. This position of the ankle and the flexion of the knee gives as much slack to the tendo Achillis as possible, thus facilitating the downward replacement of the tuberosity. The pins become incorporated in this plaster and the relation of the parts is then maintained when the bandage sets. The difficulty in using Hawley or Albee table traction in this instance is that it can only be applied with the knees extended, and it is flexion that is desired as mentioned above. However, in using the double pin scheme for lower leg fractures this objection does not hold.

If the postoperative x-ray picture does not show sufficient correction, a section of the cast including the distal pin that goes through the tuberosity of the os calcis, and corresponding roughly to the counter of a shoe, is cut away with a hack saw except across the bottom, and this free section is then wedged downward and posteriorly as the x-ray shows it to be necessary. This is done when the cast is thoroughly dry, and very slowly over a period of several days, without the employment of an anesthetic and with little discomfort.

The patient is kept recumbent with the leg elevated several days after the final adjustment and is then allowed up and around on crutches, of course without weight-bearing. The pins are allowed to remain in place for six to eight weeks. The cast is removed a fortnight after the pins come out. By that time the pin wounds have thoroughly healed and physiotherapy may be started. Weight-bearing should not be allowed for 10 weeks and then only very gradually, depending on the discomfort experienced. The development of union will vary with the character of the injury and the healing ability of the patient, and I believe that the presence of pain on attempting weight-bearing will serve as a reliable guide. It is well to require the patient to wear a metal arch support in his shoe for the first three or four months of weight-bearing. This, of course, should be made from a plaster impression of the foot on coming out of the cast.

In addition to Böhler's article, Gillette³ recently described an apparatus with a somewhat similar action. He applies a plaster

from toes to mid-thigh with ankle and knee at a right angle, which is cut away generously at the heel. A pin through the os calcis is attached to the cast on either side by two extension screws which run proximally in the long axis of the leg and are imbedded in the sides of the cast. Lengthening these screws pushes the pin and the tuberosity of the os calcis downward, thus correcting the deformity in that direction. The plaster above the 90 degrees flexed knees against the distal half of the under side of the thigh prevents the cast from being pushed up, and anchors it securely. My criticism of this apparatus is, first, that it necessitates the continued immobilization of a flexed knee with severe pressure against the important nerves and vessels just above the popliteal space, and second, that extension can only be applied downward and not downward and backward as is frequently necessary.

The chief difference between my technic and the one recently published by Böhler is that no special splint or apparatus is necessary in the application of the cast, and that I have suggested a means of further correction after the application of the cast if the postoperative x-ray shows it to be necessary. Presumably he fluoroscopes his patient in the frame before applying the plaster.

New applications of the use of the bone pin must be quickly made if one expects to record a new method as, as has been stated above, the knowledge of the advantage of direct skeletal traction is rapidly spreading and the principle is being generally applied. I have not dared yet to employ it, but I expect to see some time soon a paper advocating it for head traction, using some such instrument as is found at the post-mortem table in holding the calvarium while it is being opened. In fractures or dislocations of the neck where real efficient traction of 20, 30, or even more, pounds is necessary, the present devices can not be endured for the time generally necessary. In fractures of the long bones the double-pin method is frequently applicable and can often be used to avoid a traumatizing open reduction particularly in lower leg fractures, permitting the patient to be ambulant and leave the hospital long before this could be considered if weight and pulley traction were employed.

In closing I offer an apology for presenting this paper in view of the two articles which have recently appeared, but hope that it may

call attention to the tremendous advantage of the double-pin method and dissipate somewhat the bugbear that exists regarding skeletal traction.

References

1. WHITE, J. WARREN: A Simplified Method for Tibial Lengthening. *Bone and Joint Surgery*, XII, page 90, 1930.
2. BOHLER, L.: Fractures of the Os Calcis. *Bone and Joint Surgery*, XIII, 75, 1931.
3. GILLETTE, E. P.: Treatment of Fractures of the Os Calcis. *Journal Bone and Joint Surgery*, XII, 670, 1930.

DISCUSSION

DR. A. R. SHANDS, JR., Durham:

I believe that Dr. White has given a real contribution to the treatment of fractures of the os calcis and think he should offer no apology for modifying something that has been already presented in Bohler's treatment, because I think the value of a new line of treatment is the thought it stimulates throughout the medical profession and among those who are doing that particular line of work. We in orthopedics feel that Bohler undoubtedly has contributed the most valuable treatment of fractures in recent years of anyone. His method of applying pin traction for the treatment of os calcis fractures and other fractures is not altogether new, but its application has been varied in such a way that the results obtained are far more satisfactory than they have ever been before. As we all know, a fracture of the os calcis is a very serious injury. The insurance companies will tell you they pay out as much compensation for a fracture of the os calcis as for the average fracture of the femur or any of the larger bones, and anything that can be done to shorten the length of time in the treatment of these fractures is certainly something that should be considered by every one who is treating fractures.

I want to thank Dr. White for his paper.

DR. A. E. BAKER, JR., Charleston:

I have enjoyed Dr. White's paper very much, inasmuch as it is one that gives detailed working knowledge. Not so long ago, we had a case at the Baker Sanatorium, which Dr. White was called in to treat. This little boy, eight years of age, was shot in the knee with scattering shot. The knee joint became stiffened; flexion was impossible. Dr. White applied a cast, the principle of which was described in his paper. This cast extended from half-way up the thigh and down almost to the ankle, with a cut in the cast over the kneecap. The knee was forcibly flexed to a slight degree, and tongue depressors put in this cut surface, to hold the knee in the flexed position.

The patient comes back once a week, at which time he is given gas anesthesia, and the knee flexed slightly more, two more tongue depressors being applied between the cut surface of the cast at each visit. At this time there is considerable flexion in the knee, and from all appearances this little fellow is going to have a movable joint. I want to thank Dr. White for bringing up this subject, and to say that he is doing excellent work in our State.

DR. WHITE, closing:

I appreciate very much the discussion of Dr. Shands and Dr. Baker. I have a couple of x-rays here which I should like to show you.

In applying the same principle to fracture of the ankle, where the internal malleolus has been shoved up to the astragalus and is jammed in between the internal fragment and the external fragment, it shows beautifully how this same traction double-pin arrangement can be used and make practically a perfect reduction, and with no fear afterwards, mind you, of the fragment's slipping. With the long oblique fracture you always fear that the fragment has slipped, but if you put in the pins it can not slip.

The Insurance Applicant's Physical History: Our Mutual Interest as Attending Physicians and Medical Underwriters*

J. J. POST, M.D., Greensboro, N. C.

Assistant Medical Director, Pilot Life Insurance Company

It is sometimes of benefit to us, in a meeting of this kind, to get away, for a brief period, from scientific discussions and discuss our interest in affairs, which we as physicians are called upon to take. One, of a great many of these, that I wish to discuss with you

in this paper, is our interest in the applicant for insurance.

The insurance applicant of the present day is usually convinced of the advantages of life insurance and, having applied for insurance, is usually very desirous of getting the protec-

*Presented by title to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

Dr. Post was present and presented his paper by title to expedite the business of the Association.

tion which it affords. One of the important factors in deciding whether an applicant is entitled to life insurance is his past physical history.

This physical history as given to the insurance examiner is often indefinite and incomplete on account of a lack of knowledge on the part of the applicant. He is entirely dependent on his attending or family physician for this information and in my experience is desirous of having his physician furnish the necessary details.

It seems to me that if one of our former patients should come to any one of us with the request for information regarding a past illness or physical impairment, so that he might secure life insurance, a position or anything else of benefit to him, we would be very prompt and glad to give it to him. The applicant for life insurance signifies this desire on his application and the medical underwriter, who passes on the risk, is simply carrying out his duty to the applicant and the insuring company, who are negotiating a contract, in requesting information so that this contract may be put in force. As a representative of a life insurance company, I do not feel that it is fair for us to call upon a physician, through the advice of our applicant, to spend his time looking up his records and writing letters without offering to pay him a reasonable fee for the time consumed in this way and I believe most companies are willing to do this. On the other hand, I honestly feel that an applicant, whom we have treated as a patient is entitled to this consideration, which we are oftentimes called upon to give.

The question probably often arises in your minds why some of the information requested is necessary. There are two reasons for getting definite and accurate facts before issuing insurance. First, so that there will be no question regarding an early death claim, and second, so that the insurance may be issued if the applicant is entitled to it. As a rule, this information in a large percentage of cases is of such a nature that the case can be approved and the insurance issued.

Of course, there will come up a few cases of misunderstanding on the part of the applicant, when the information is of an undesirable nature. The insurance company has protected the physician in such cases by hav-

ing the applicant sign the statement "that all provisions of law forbidding any physician who has or shall have attended me from disclosing any or all information which he acquired or may acquire by such attendance are hereby expressly waived, and such waiver is part of the consideration of any policy to be issued on this application." However, in any case where there is any doubt in the physician's mind regarding the way an applicant may take the giving of this information, especially if it is of such a nature that it may debar him from getting life insurance, the physician may require the insurance company to furnish him with written permission from the applicant, permitting him to give this information. This request is gladly complied with and carried out by the insuring company.

The medical department of a life insurance company further protects the physician by treating any information received as strictly confidential. We are often called upon by the applicant or agent to give specific reasons for our action and whenever this is necessary, it is always done with the utmost thought and discretion in regard to the physician involved. There are cases I will admit where it looks to the physician as if the insurance company had not kept faith with him. But in these few cases traced to their beginning, and I can assure you that every such case is traced to its beginning if possible; it was found without exception to be due to circumstances over which we had no control.

During my few years of service in the medical department of the Pilot Life Insurance Company, I have had the pleasure of corresponding with a goodly number of physicians and have been very much pleased with the interest shown in cases, especially by physicians in the States which make up this association. However, at times there has been some question in my mind as to whether we understood each other thoroughly and looked at all sides of this question.

When our most capable secretary and editor suggested to me a paper on this subject, my only reason for presuming on the time of a program of so many interesting papers was that I hoped a brief discussion of this subject might promote a better understanding between us as physicians.

Value of a Routine Wassermann Test in General Practice With Analysis of 3,000 Routine Tests*

CLYDE M. GILMORE, M.D., Greensboro, N. C.

The interest and enthusiasm of the medical man in the new discoveries and advances in medicine frequently tempt him to neglect the practical application of older, better known, and consequently less interesting, problems. In recent years this has been especially true of syphilis, one of our oldest and most vital medical and social problems.

Many years ago Sir William Osler publicly expressed his opinion that there were more of our citizens affected with the syphilitic taint than with the tuberculous. Since his time the incidence of tuberculosis has sharply decreased, while the evidence is that syphilis is increasing each year, so that now there are more infected with syphilis than with tuberculosis. Various estimates give from eight to 13 per cent of the population of the United States as being syphilitic. Even if we take the lowest estimate it is sufficiently high to justify us in giving more serious consideration to the prevention, control and eventual obliteration of this disease.

For centuries the members of our profession have studied the disease and wrestled with its complications, fighting well with the inadequate weapons at their disposal. In the first few years of this century it seemed that we had nearly reached the end of the long, long trail; there followed in rapid succession the discovery of the causative organism, *Spir-o-chæta pallida*, by Schaudinn and Hoffmann, in 1905, the perfection of the Wassermann reaction in 1906, and the discovery of a specific arsenical and the development of intravenous therapy by Ehrlich in 1910. Later came the technique of the dark-field examination and the addition of bismuth to the other three known specific drugs. Surely a few years ago it seemed that the disease would be brought under control and the 500-years-old fight against the "black plague" would soon result in victory for Medicine. But the results have been very disappointing. Available statistics indicate that syphilis is defi-

nately increasing, in sharp contrast to the decrease of most other infectious diseases since the advent of scientific medicine.

Experience in the control of smallpox, typhoid, yellow fever, diphtheria, malaria, hookworm and others has taught us that ordinarily even the most widely prevalent diseases may be brought under control or totally eradicated if we have the five necessary weapons of offence: an accurate knowledge of the causative organism, a knowledge of its mode of transmission, reliable laboratory tests for its diagnosis, a specific therapeutic agent, and a reasonably efficient method of preventing individual infection.

We had all five of these weapons to use in the fight against malaria, and this once widely prevalent disease has been practically eliminated; we had all five in the fight against diphtheria, and the death rate from this infection has been cut down to a very low figure. With only four in the fight against tuberculosis, the morbidity and mortality have sharply declined. With four the typhoid incidence and mortality have been reduced 75 to 90 per cent. Yet, with all five of these weapons at our disposal, we have not made much definite progress in the control of syphilis. Why? The answer can only be: Neglect or indifference on the part of the profession, the Public Health service, or the public.

For instance, statistics from North Carolina's State Board of Health¹ show that the death rate from typhoid has decreased from 35.8 per 100,000 in 1914 to 4.4 in 1930, a decrease of 87.4 per cent. Over the same period the death rate for diphtheria decreased from 15.8 to 7.8—50.6 per cent. The death rate from tuberculosis decreased from 139.3 in 1914 to 74.9 in 1930—46.2 per cent. Over the same period the death rate from syphilis was almost doubled—3.0 in 1914 to 5.8 in 1930. In the past five years the reported cases of syphilis increased from 3,161 in 1925 to 5,106 in 1930, while the number of deaths

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

from this cause increased from 166 in 1925 to 224 in 1929. In proof that the condition indicated by these figures is not confined to North Carolina, the number of reported cases in Chicago increased from 3,812 in 1919 to 8,033 in 1922. And figures from several other cities give the same proportionate increase.

I do not believe that the physician can be entirely absolved from blame for our lack of progress in this disease, for in the control of other contagious diseases the public has eagerly accepted and absorbed the facts regarding the method of contagion, importance of treatment, and precautions for prevention just as soon as the medical profession was in position to give the information. Here I would like to quote Simpson,² of Hartford, whose article on this subject written over 20 years ago should be read by every doctor, minister, teacher and interested layman:

"These diseases are secret diseases and it has been an offense, and perhaps even a peril, to speak of them openly to society at large. Hence exists a universal ignorance about them. Except to their victim, they are for the most part only a name; and a large proportion of their victims are never told that they have them. But to such an extent are they found to be responsible for suffering in innocent human lives, and so powerful is their effect in operating toward race degeneracy and race extinction that in all of the most advanced countries a movement is going on for the enlightenment of the people concerning their destructive workings. Whatever danger there may be in openly exposing them, the danger of silence is believed to be far greater. . . . I believe the most potent means of diminishing the venereal diseases will be the spread of exact information as to their disastrous results, immediate and remote, upon the human system."

In the fight against syphilis, as in any other disease, the general practitioner—the family doctor, constitutes the first line of defense. He can do much by training himself to recognize the disease in its earliest stages, by giving adequate treatment before the disease has reached the tertiary and incurable stage. He can do still more by individual instruction, by insisting that every patient acquire the necessary facts regarding the transmission, the dangers and the complications of the infection.

The treatment which every general practitioner should be able to give, if given in the first year of the disease, will mean more to the patient than months of treatment under

the best of specialists after the disease has reached the tertiary stage. It is hardly possible that a patient will go through the 10, 15 or 20 years that usually elapse after acquiring the disease before cerebro-spinal or cardiac symptoms appear, without at some time consulting his family doctor. It therefore follows that if every general practitioner did his duty in taking a careful history, giving a good physical examination, and taking blood for a routine Wassermann test there would be few, if any, advanced cases to reach our private sanatoriums or state institutions, and the most tragic complications of syphilis would rarely be seen.

I believe that by far the most important single item in the control of syphilis is the making of a Wassermann test on every patient. With present-day State, County and City laboratory facilities, this procedure is possible and entirely practicable for 95 per cent of the physicians in the three States of this association.

For the past five years we have insisted on a Wassermann test for every new office patient. In that time not more than a dozen patients have refused the procedure.

I have no record for outside patients seen in their homes or for hospital cases whose reports were not included in our files. Below is given a table showing the results of the tests, by years, from 1925 to 1930 inclusive.

	No. Tests	Negative	Positive	% Positive	Rec'd. Treat.
1926.....	256	215	41	16.1	25
1927.....	393	342	51	12.9	35
1928.....	599	527	72	12.1	57
1929.....	835	763	72	8.6	46
1930.....	944	840	104	11.0	76
Totals.....	3,027	2,687	340	11.2	239

The last column of figures was included in this table to remind you that the routine Wassermann is profitable to the physician as well as to the patient.

It is interesting to note that out of the 3,027 tests we had only 14 false positives; that is, a positive report which was later shown to be an error.

This indicates an accuracy of 99½ per cent and is in keeping with the usual efficient service rendered by our local health department.

Gentlemen, we are facing here the problem of a disease which involves even at the most charitable estimate something near 10 per cent of our total population, and which is increasing in spite of the fact that we have the five requisites for its complete control. We can follow the spirochete in its path of destruction from the moment it enters the patient's body in the primary lesion down through the years to the final stage of tertiary lesions in his cerebro-spinal or circulatory system. We have a specific drug with which to effect a cure and 10 to 15 years in which to use it. Yet each year more of our citizens are permanently disabled in the most productive period of their lives, and are thereafter burdens on their families or on the taxpayers. Each year syphilis continues to cause more than 40 per cent of the premature and stillbirths. Statistics from the United States Army prove that ordinary antiseptic prophylaxis, if used within two hours after exposure, is more than 94 per cent effective. Yet more new cases are reported each year.

It would be out of place for me to presume to advise the members of this body as to their duty in so vital a problem. But I am convinced that it is neither practical nor wise to simply point out "the straight and narrow path" to the modern youth as the only way of avoiding the calamity of venereal disease. Such advice is frequently given and rarely followed, except when both physician and patient are past middle age. "Many a man complacently thinks he is forsaking his favorite sins, when his favorite sins are merely forsaking him." We shall begin to make progress toward the solution of the venereal problem when we give to the public all the facts regarding the prevalence, nature, complications and methods of individual prevention of the infection. Let us face the issue squarely and discharge our duty to our present and future civilization by insisting that the teacher, the minister and the press coöperate with us in giving to the public the essential facts for the prevention and control of the disease, and I am fully convinced that the layman will respond just as freely as he has previously followed our advice in the fight against typhoid, malaria, diphtheria and other plagues.

References

1. COOPER, G. M.: Director of the Bureau of Vital Statistics of the State of North Carolina.

2. SIMPSON, F. T.: The Extent and Importance of The Venereal Diseases in The Social Body. *Virginia Medical Semi-Monthly*, Volume 14.

DISCUSSION

DR. W. C. ASHWORTH, Greensboro:

When Dr. Gilmore asked me to discuss this paper I told him that I was more concerned about the end results of the disease, namely, paresis, locomotor ataxia, etc., than about luetic infection *per se*.

I am reasonably sure that we all are in full agreement with Dr. Gilmore that the subject of syphilis is of the most vital importance and that his paper will stimulate to much-needed action.

The symptoms of the disease are so protean and bizarre that oftentimes we overlook it during its incipient and curative stages. It is lamentably unfortunate for the luetic patient that the disease often remains quiescent in the system for 20 years or more and then becomes recrudescant, destroying body, mind and soul. This fact was recently very forcibly brought to my mind when a luetic patient entered my office whom I had treated fully 20 years ago by mercury and iodides, with the belief that the disease had been cured. The patient, however, at this time was manifesting all the classical symptoms of paresis, notwithstanding the fact he had been successful in business during his supposed freedom from the disease.

I often think of a statement made by my former teacher, Dr. Forcheimer of Cincinnati, that the syphilitic lives with his disease, dies with it and his soul wakes up in judgment with it. Of course at this time, our remedies to combat the disease are more satisfactory. I cannot emphasize, however, too strongly that even with salvarsan and allied remedies we haven't as yet a specific for the disease;—certainly not when the disease has invaded the central nervous system; therefore, our so-called specifics should be reinforced with all other curative measures at our command.

The subject of eugencies should be taught in our schools, and the public at large should be fully instructed on prophylactic as well as curative measures. I feel it would be but reiteration for me to stress the salient features of the disease which have been so forcibly emphasized by this well written and comprehensive paper. Just here as a prophylactic measure I wish to state in my judgment examinations prior to the granting of marriage certificates should be improved, in order that they may be prophylactic measures rather than formal statements only.

Let us not delude ourselves with the erroneous, but prevalent, belief that syphilis in its chronic stages, neurosyphilis especially, is a curable disease, and that a desultory method of treatment can be employed with satisfactory results.

The same research and persistent study should urge us to continue the search for a remedy which will cure this scourge of humanity.

"The tissues of the life to be
We weave with colors all our own
Till in the fields of destiny
We reap as we have sown."

When our parietic patient confronts us, we recall vividly Macbeth's appeal to his physician for his wife:

Macbeth: Cure her of that
Canst thou not minister to a mind diseas'd;
Pluck from the memory a rooted sorrow;
Raze out the written troubles of the brain;
And with some sweet, oblivious antidote
Cleanse the stuff'd bosom of that perilous stuff
Which weighs upon the heart?

Doctor: Therein the patient
Must minister to himself.

DR. F. B. JOHNSON, Charleston:

I should like to express my appreciation of Dr. Gilmore's paper. Progress in prevention is very important. We have to take into consideration, of course, the Wassermann reaction's being a very revolutionary measure in diagnosis. With the introduction of the Wassermann reaction in 1906, the methods of diagnosis were very crude. With more refinement of method we have been able to improve the technic considerably. The Kahn test, in our hands, is now 60 per cent positive. This may account for the fact that we are getting a higher percentage of positives in recent years than previously. When we consider the fact that so many cases of syphilis went undiagnosed entirely and that physicians now are checking up more carefully, we naturally find more cases of syphilis. I think we can assert, however, that we rarely see these advanced cases of syphilis that we did a few years ago.

I was told the other day that in Hot Springs they have gone back to the old method of treatment—that is, the old 606. During war times in our venereal clinic we investigated a great many methods of treatment. Undoubtedly the method with the older treatment was better than with the newer treatment.

Illustrating the figures Dr. Gilmore gives, our percentage in the Negroes, especially, at Roper Hospital is very interesting. Of course, this represents just the patients coming in and going out of the hospital and the clinic patients. Forty per cent were positive among the Negroes, and among the white patients 15 per cent. We have tried to check up as carefully as we could the duplicate tests, but undoubtedly there are a good many duplicates there—patients that have been in more than once and have been tested.

We do not claim to be the only endemic center. You can preach prevention all you want among the Negroes, it has very little effect; and while we have such high rates among them we shall have a high rate among the whites.

Different reports by different laboratories will vary considerably, according to the different details of the technic carried out. We find that very, very rarely do we get any false reactions with the Wassermann test, and then it is only in the 1-plus reaction. With the 4-plus Wassermann in our terri-

tory I feel that we have to prove that the patient has not syphilis. Many of these cases I have seen with an entirely innocent history; apparently they are people you would believe, and yet they have 4-plus Wassermann. Well, if it were you, and certainly if it were I, thorough treatment would be instituted.

With the flocculation test, which is mainly done in this country, and the microscope test, which is mainly done by Klein, our results are much higher than in the other tests; and while we can not place as much reliance on the Kahn test and the microscopic test, yet their greater degree of sensitivity gives us the higher figures. The Wassermann reaction must not be too sensitive, because we shall get false positives if it is. With a careful check on your records you do not get so many of those falsely positive cases.

I think the Wassermann has been positively revolutionary in its effects, and undoubtedly the refinement in diagnosis accounts for the high numbers of cases now being reported.

DR. M. L. TOWNSEND, Washington, D. C.:

In the middle of December a doctor called me and said he had a young man in post-alcoholic delirium and wanted to know if I could take care of him. He was sent out, quite delirious. He had a 4-plus Wassermann and showed clinical indications of paresis. He is one of the richest men I ever saw; he did not stop with the world but owned everything. He was a Dane who came to this country as a boy; he was 16 when the war came and served through the war; then he came back to Washington and built up a good business. He was married, and his wife was delivered of her first baby four months before. We immediately started giving spinal injections. The spinal fluid did not look parietic. He was only 26, and we did not think he was parietic. The colloidal gold curve was just as far from a parietic curve as any you could find. I thought probably it was a meningitic condition. We went ahead with neoarsphenamin. The next week we started in with potassium bismuth tartrate. This was a Veterans' Bureau case, and when it developed that it was going to be long standing it was transferred. The peculiar thing about it, to me, was that certainly this infection was, I believe, not less than six months old. He told me very frankly about having had gonorrhea two or three times; he was delirious all the time, you understand, and we could not place much dependence on what he said. He had said during the time his wife was confined he did run around with wild women some. The peculiar thing was that the paresis should show up in six months, and there were undoubted parietic signs in his behavior.

DR. GILMORE, closing:

With regard to Dr. Johnson's reference to the fact that we have had the aid of the Wassermann

reaction only a short while, and possibly this aid in diagnosis being so late is the reason why we have been so slow in controlling this disease, I should like to remind you that we have had the aid of antitoxin in diphtheria only a short time and have made wonderful strides in controlling that disease. We have had the Wassermann reaction for about 26 years, and I think we have not made the progress we should have made.

Case Reports

PULMONARY ABSCESS

HUGH S. BLACK, M.D., Spartanburg, S. C.
Mary Black Clinic and Hospital

An abscess of the lung is not an uncommon postoperative complication and the pathologic changes resulting will vary with the virulence of the infective organism, the mode of infection, the resistance of the patient, the duration of the infection and the type of treatment. They may be small, surrounded by a large area of inflammation of lung tissue, or large, involving almost the entire lobe. They may be single, multiple or multilocular. They are usually surrounded by a peripheral zone of pneumonia which may be in the various stages of resolution. In the chronic cases bronchiectasis frequently develops with a thickening of the pleura and the abscess wall and a fibrosis of the lung forms. In some cases a stenosis of the bronchi will result and in others a perforation. Secondary abscess may follow a perforation or a spread of infection by way of the lymphatics and blood stream.

Pulmonary abscess usually dates from an illness, operation, or accident, and it is usually a matter of days or weeks before it is recognized. It may be abrupt and characterized by marked symptoms of acute infection with more or less prostration, or by malaise, cough, fever, pain in the chest, chilliness and gradual onset. The physical findings may be those of consolidation or cavitation, or slight and uncertain.

Hedblom in a series of 692 cases reported 146 (21 per cent) following operation and of this number 31 followed tonsillectomy; 9½ per cent followed extraction of teeth and 26 per cent followed laparotomy. Most all of them had general anesthesia. It is believed that most cases of post-tonsillectomy suppuration are due to aspiration of infected material

during and following operation, as Myerson found blood in the trachea and bronchi in 79 per cent of patients whom he examined immediately after operation in which the bleeding had been controlled. The occasional cases reported following local anesthesia might be explained by obliteration of the protective laryngeal reflex.

Abstracts of four cases recently treated follow:

CASE 1.—A 22-years-old white man, of negative family and personal history. Four weeks before admission to the Mary Black Hospital the patient was taken sick early in the morning with pains and aches in the left knee and by night the knee was markedly swollen and tender. There was no chill, but he had high fever and a few days later incision of the knee with drainage was done under local anesthesia for infection.

Two weeks before admission to the hospital the patient had developed pain in right chest with fever, dyspnea, cough and cyanosis. A diagnosis of pneumonia was made by the family physician. The patient did well for 10 days; when he began to expectorate large amounts of foul pus with blood in it. He was then sent to the hospital with the following physical findings:

Facies characteristic of a severe illness, weight loss 18 pounds, temperature 99½ at 10 a. m., limited expansion of right chest with impaired resonance in the lower right lung and diminished breath sounds. Abdomen and extremities negative. B. P. 130/90, hemoglobin 83 per cent., w. b. c. 23,200 with 87 per cent polymorphonuclears, urine negative except for a faint trace of albumin. X-ray examination, abscess of right lung, lower lobe.

Diagnosis—Abscess of right lung.

Operation—Thoracotomy.

Anesthetic—Ether.

Patient turned on left side and incision made overlying the ribs just below the angle of the right scapula. The soft tissues were retracted and the ribs exposed. Three inches of the eighth and ninth ribs were resected. The pleura was edematous, thickened and adherent. An aspirating needle was inserted the second time before the abscess cavity was found. With the needle in situ the actual cautery was inserted through the pleurae and lung into the abscess cavity where foul pus escaped. The finger was inserted, and cavity explored and drains inserted.

Progress—Uneventful convalescence.

CASE 2.—A 70-years-old white man, Jewish, family history negative, had appendectomy eight years ago. One month before admission to hospital the patient was taken with pain and soreness in upper right chest with coughing. This was followed in a few days by profuse expectoration and with tem-

perature one degree above normal. The coughing and profuse expectoration gradually got worse and finally he went to bed suffering severe pains, weakness, sweats and profuse foul sputum. On admission to the Mary Black Hospital he had lost 20 pounds and had no appetite.

He was a thin emaciated individual, temperature 102, teeth bad, right chest showed limited expansion, especially in upper half, with impaired resonance and percussion, whispering pectoriloquy and many rales; left lung negative, except for occasional rales at base; abdomen and extremities negative, B. P. 170/120, hemoglobin 70 per cent, w. b. c. 13,750 with 84 per cent polymorphonuclears; urine 1020, acid, faint trace of albumin. The sputum contained blood and diplococci resembling pneumococci, but negative for t. b. X-ray made 4-15-29 showed evidence of consolidation in middle lobe of right lung with cavity of four or five centimeters in diameter, which is an abscess of the lung.

His condition was so grave that he was treated expectantly and postural drainage carried out; sedatives and stimulants given, and diathermy and bakings applied to the chest. After two weeks of doubt the patient began to improve slightly, though he still had profuse, foul sputum and had had six hemorrhages. We continued to follow out the same line of treatment as his condition was not favorable for surgery and after several weeks he was dismissed from the hospital. He has gained 30 pounds within the past five months.

CASE 3.—A 16-years-old white girl, family and personal histories negative. Two weeks before admission she was taken with sudden pain in the right midaxillary line. This pain was constant and made worse by breathing. Next day she began to cough and the sputum contained small amount of blood. The pain was so severe that she could not lie on right side. After 10 days the pain began to subside, but at this time she began running a high fever with sweats and profuse foul expectoration.

On admission she had lost 10 pounds and was a thin girl with a flushed face and temperature 102. Chest expansion limited on right side with increased vocal fremitus and resonance below level of third rib. There was dullness from the fourth rib anteriorly and posteriorly to the base with many large rales. Left chest was normal and the abdomen negative; B. P. 106/72; urine contained albumin, 2-plus; w. b. c. 24,200 with 83 per cent polys. Sputum contained colon bacilli with many Gram-positive diplococci, but no tubercle bacilli. X-ray report: Abscess cavity about two inches in diameter in middle lobe of right lung. There was no evidence of tuberculosis.

Diagnosis: Pulmonary abscess, right.

Operation: Thoracotomy. Two stage operation.

Anesthetic: Local.

U-shaped flap, including the muscles, was made in the right chest, posteriorly, on the level with the

third to the seventh ribs, between the scapula and the spine. This flap was turned upwards and the fifth and sixth ribs exposed near the vertebral junction. The periosteum was separated and two inches of the fifth and sixth ribs removed. The wound was then packed with one piece of iodoform gauze and the patient returned to her room as her condition did not warrant further surgery at this time.

Second stage of operation:

Three days later patient was brought back to operating room and an aspirating needle inserted through the pleurae into the lung, after the pack had been removed. The cavity was by this way identified and the actual cautery was inserted through pleurae and lung tissue into the cavity and thick foul pus escaped. Drains were inserted. The patient made an uneventful recovery and has gained 34 pounds in 11 months.

CASE 4.—A 12-years-old white boy, family history negative. Tonsillectomy 18 days previous under ether anesthesia. Discharged from the hospital on the following day in apparently good condition. For seven days he was apparently in good condition and then he began to lose appetite, pain was felt in left chest with some coughing, bringing up a great deal of sputum but no blood. Temperature varied from 100 to 101 in afternoons with some sweats, though he was not in bed all of the day until after he came to the clinic.

His weight was 80 pounds, temperature 101, B. P. 100/60. Chest, no decrease in expansion, but impaired resonance with decreased breath sounds in left chest in region of sixth, seventh, and eighth ribs, posteriorly. Otherwise physical findings were negative. Urine 1018, acid, faint trace of albumin; w. b. c. 14,600 with 80 per cent polys. Sputum examination showed no evidence of tuberculosis. X-ray examination showed abscess of left lung.

Diagnosis: Post-operative pulmonary abscess, left.

Patient was put to bed and treated expectantly. Sedatives were given, heat applied to chest and forced feeding resorted to. Patient made a good recovery and two months later had gained nine pounds.

COMMENT

The recognition clinically of pulmonary abscess may be difficult or impossible, depending on the stage and time when the patient is first seen though the diagnosis is based on the clinical aspect of the case, the symptoms and signs, and what is still more accurate the x-ray and bronchoscopic findings.

The method of treatment will depend on each individual case and clinical course. Expectant treatment is indicated during an associated pneumonia and in the incipient stages of the abscess. Expectant treatment includ-

ing postural drainage should be continued when there is progressive improvement. However, one should not wait longer than two weeks for this to take place. When the sputum becomes excessive this method of treatment should cease.

During the past few years the trend has been to treat many cases by bronchoscopic lavage and, in fact, some bronchoscopists suggest that it will not be long before they will be able to go through normal lung tissue to open into the abscess whether it be central or peripheral.

Pneumothorax collapse, phrenectomy, thoracotomy for drainage, extrapleural thoracoplasty and lobectomy all have their advocates and no one method of treatment applies to all cases.

The peripheral cases are probably best treated by thoracotomy. This is done under local anesthesia and accurate localization of the abscess is of first importance. If adhesions between the pleurae are present the abscess is located with the aspirating needle. The ribs are then resected and drainage is effected by burrowing the tract into the abscess with a cautery. If adhesions are not present, the lung is sutured to the parietal pleura around and under the ribs and drainage effected five to seven days later, after adhesions between the pleurae have been formed. This method will safeguard against empyema which is the most common and fatal complication following drainage of pulmonary abscess.

The danger in exploratory aspiration of the chest to localize an abscess without thoracotomy is the possibility of contaminating the pleural cavity. If lobectomy is indicated the mortality rate is lessened after gradual thoracoplasty has been performed.

TWO CASES OF TRAUMATIC RUPTURE OF THE URETHRA

R. E. BROOKS, M.D., Burlington, N. C.
Rainey Hospital

There is very little mentioned in textbooks about this subject and consequently the first case I saw was a problem which had to be solved by comparing the condition with stricture, hypertrophied prostate and similar conditions of the urinary tract. In a majority of these cases, a delay in surgical interference is

fatal. W. Calhoun Stirling¹ gives the mortality of traumatic rupture of the urethra and bladder at 75 per cent, in those in which surgical intervention is delayed. Those with no surgical intervention show a mortality even higher. In cases which are given early operative treatment, a mortality of 40 per cent is shown. Consequently, the alert diagnostician will be able to save about one-half of these patients. The object of the report of these two cases is to impress upon you the necessity for an early diagnosis and operative intervention. Drs. Peacock and Hain² give us some statistics of early operative intervention with a mortality of 25 per cent.

I think the danger in delay can readily be compared with the delay in operative intervention with a ruptured gastric or duodenal ulcer. After one has seen a ruptured ulcer he never forgets the clinical picture; but not so with a ruptured urethra. There may be no pain at all, only a slight soreness, and if the rupture is external to the membranous part of the urethra there may be more or less swelling in the perineum, due to extravasation of urine.

The most frequent cause of the rupture of the urethra is fracture of the pelvis, single or multiple, or the patient may fall astride a bar or on some sharp instrument and not fracture any bones. Another cause is stab wounds and gunshot wounds.

It is easy to overlook the ruptured urethra before the patient becomes critically ill. All suspicious cases should be examined thoroughly to make sure the urethra is not injured.

CASE 1.—A 9-years-old boy was referred by Dr. W. H. Braddy to Rainey Hospital on July 4th, 1928, about 9 p. m. He had just seen the patient and found a slight swelling in the perineum. The patient had fallen astride an iron pipe about three hours earlier and upon admission he did not appear to be toxic, nor was he suffering any pain, and the only signs or symptoms were slight swelling and tenderness of the perineum. He was unable to void and we were unable to pass a catheter. Dr. Braddy is to be congratulated for making such a prompt diagnosis and insisting upon a radical treatment of the case. We did a urethrotomy but were unable to locate the proximal end of the urethra. We then did a cystotomy and passed a catheter from the bladder out of the urethra. We sutured the ends of the urethra together, put in an indwelling catheter and closed the bladder tight. The catheter was left in for two weeks, the urethra was dilated with sounds

at regular intervals following the removal of the catheter.

The fibrous tissue resulting from traumatic rupture of the urethra is much denser and harder to dilate than that caused by a gonococcus infection. This patient was in the hospital only 22 days and convalescence was uneventful. The patient is now apparently none the worse from his experience.

CASE 2.—A 6-years-old boy was run over by an automobile and brought immediately to the hospital Aug. 5th, 1928. Upon admission, he was unconscious and in extremis. After treating him for shock for a few hours, he did not react. The x-rays disclosed multiple fractures of the pelvis, a fracture of the middle third of the left femur and a fracture of the right elbow. After 12 hours, he was still comatose and had not voided. We tried to catheterize him but were unsuccessful. We did a cystotomy under novocaine anesthesia and put in a suprapubic drain (Pezzar catheter), for his condition was so critical that we did not dare do any more at the time. We decided to let his fractures heal and do some plastic surgery on the urethra at a later date. The patient was discharged on Sept. 16th, 1928, with urine draining from the suprapubic wound. He was instructed to return later for repair of the urethra.

The patient returned to the hospital Feb. 21st, 1929, but due to the fact that he had a phimosis which could not be retracted and would interfere with asepsis and urethral instrumentation, we did a circumcision and asked him to return later for urethral repair.

The patient again returned on July 2nd, 1929. The problem that confronted us was the patient was seven years old and very small for his age, the urethral tract and genitals small and much dense scar tissue along the perineal urethra. We dissected the suprapubic fistula and passed a catheter through the bladder into the urethra, then incised the perineum down to the catheter, then passed a catheter from below to connect with the small Pezzar catheter in the bladder. The catheter remained in the urethra for 10 days. The problem after removing the catheter was that of passing a filiform and sounds to keep the urethra dilated. We threaded half a dozen strands of coarse silkworm-gut sutures in the catheter and pulled them through the urethra and the suprapubic wound and the ends of each strand were anchored together with shot. The silkworm-gut was used because it is non-irritating and less likely to harbor bacteria.

At intervals of four or five days, we would thread the end of a suture in the tip of a soft rubber catheter, pass the knot of the suture in the lumen of the catheter to avoid trauma and use traction on the suture as well as forcing the catheter in the urethra to act as a sound and keep the urethra dilated. After exhaustion of the supply of sutures, we were still confronted with the problem of passing sounds. We still have to use filiforms and thread

on the sounds with which we have been very successful. We now dilate the urethra about once every two or three months up to a size No. 16 French which is very good for a child of his age. The suprapubic wound healed about the time he left the hospital and he has been freely voiding a normal urine.

CONCLUSION

1. There are here presented two cases of extremes in morbidity which were caused by serious and multiple injuries in one and a single injury in the other.

2. The importance of an early diagnosis and surgical treatment should be stressed and insisted upon.

3. The signs and symptoms are not obvious to the casual observer, but stand out as prominent and vital to one who has had some experience with these cases.

4. Never be satisfied unless the patient who has had an injury to the pelvis is able to void, his urine is negative microscopically for red blood cells and he can be readily catheterized.

References

1. STIRLING, W. CALHOUN: *Journal of Urology*, May, 1927.
2. DRS. PEACOCK and HAIN: *Journal of Urology*, June, 1926.
3. BIRDSALL, J. C.: *Journal of Urology*, Oct., 1929.
4. DAY and MARTIN: *California and Western Medicine*, Vol. XXXIII, page 849.
5. YOUNG, HUGH H.: *Manual Military Urology*, 1918, page 194.
6. WHITE and MARTIN: *Genito-Urinary Diseases*, page 72.

DISTURBANCES OF DEGLUTITION DUE TO BULBAR POLIOMYELITIS

V. K. HART, M.D., and F. E. MOTLEY, M.D.

Charlotte

From the Charlotte Eye, Ear, Nose and Throat
Hospital

Anterior poliomyelitis usually, of course, attacks the lower centers. However, a bulbar type does occur without any symptoms referable to the extremities. When this happens it may be very misleading unless this manifestation of infantile paralysis is kept in mind. It is described in standard textbooks, though fortunately a more rare form of the disease as it is apparently always fatal.

A case is presented which recently came under our observation. The history is briefly abstracted:

The chief complaint was inability to swallow. There was history of some fever and

dysphagia for four days. Practically no fluids had been taken during this time. Stomach tube was passed by the family doctor 12 hours previously and fluids given in this manner.

Nothing of value in the past history.

The patient is a 17-years-old white boy with large, infected tonsils, nose and sinuses negative. Larynx shows paralysis of extrinsic muscles but vocal cords move readily. Larynx is full of saliva which spills over from esophagus due to paralysis of the musculature of the esophagus. Some slurring of speech. X-ray and fluoroscopic examination reveals that both pyriform sinuses fill but none of contents enters the esophagus. The patient cannot even initiate the act of swallowing.

Tentative diagnosis—Apparently a central nervous system lesion.

Therapy—Glucose intravenously and saline by rectum.

Course—One hour after admission the patient lapsed into coma with Cheyne-Stokes respiration. In another hour the patient expired. Spinal puncture, done before lethal termination, showed 115 cells, 75 per cent polymorphonuclears, 25 per cent lymphocytes. (Lymphocytes predominate early in the disease, but polymorphonuclears increase as disease progresses¹.) Although usually present, there was no albumin or globulin. No bacteria found and the spinal Wassermann was negative.

Revised Diagnosis: Bulbar type of anterior poliomyelitis.

COMMENT

The negative Wassermann and quick death argue against lues. Even patients with a tuberculous meningitis rarely die so quickly and there was neither a pellicle nor an organism present in the fluid. With such obvious involvement of the bulbar nuclei, in such a young individual, and evidence of infection as indicated by the fever and spinal fluid count, no reasonable diagnosis remains but a bulbar type of anterior poliomyelitis.

References

1. NEUSTAETLER, M.: Clinical neurology. F. A. Davis Co., Philadelphia, 300, 1929.

John Henry (after a narrow escape at a railroad crossing)—Whaffo yo' blow yo' horn? 'At ain't gwine do you' no good.

Clinical Comment

A Column Conducted By
L. G. GAGE, M.D., Charlotte, N. C.

Duodenal ulcer is a chronic ailment. The characteristic symptoms occur at intervals over a remarkably long period of years. It makes its appearance at widely varying ages. From the x-ray standpoint ulcer is always accompanied by spasm of the bowel wall. In the process of healing the ulcer defect disappears as a rule before spasm clears up entirely. Where a recurrence of symptoms takes place, after cessation and healing from the x-ray evidence, spasm often precedes any appearance of ulcer defect in the plates.

Patients often state that if they are emotionally upset the characteristic symptoms of ulcer will appear, and both replases and primary attacks can often be identified with some specific emotional stress.

A question which has often occurred to the writer hereby arises, which is whether or not the spasm is the cause or the result of ulcer.

Patients who are successfully treated for duodenal ulcer always experience a tremendous improvement in general physical condition and sensation of well-being. Is this due to the healing of the ulcer or to the effect of the necessary treatment on the faulty general physiology that produced the ulcer?

Manifestly if there is such a faulty general physiology it is not correctible by local surgery. If the condition has gone on to the point of physical deformity local surgery alone can correct this deformity and the consequent impaired function.

Only medical measures directed toward abating spasm can promote healing of duodenal ulcer. These include bland, finely divided foods frequently administered, alkalies (it has been shown that alkalies administered during fluoroscopy immediately cause abatement of spasm), belladonna, and last, but most important, the promotion of a better balanced emotional state. Add to this the understanding on the part of the patient that he has a condition that will recur under unfavorable circumstances, but will not recur under favorable conditions.

Lil' Black Joe—Boy, 'at wa'nt my ho'n. 'At was Gabriel makin' a mistake.

DEPARTMENTS

HUMAN BEHAVIOR

JAS. K. HALL, M.D., *Editor*

IS SUICIDE HOMICIDE?

Homicide is the destruction of the life of one human being by another human being; suicide is the voluntary killing of one's own self.

Almost from the moment of the development of consciousness until the death of the individual the human being is constantly engaged, if not in homicide, at least in zoöcide. The latter term refers to the killing of anything, vegetable or animal. All living things originate in living things and they obtain their sustenance—much of it—from matter once vital. Most plant life, so far as I know, is sustained largely by dead animal and vegetable matter. The majority of mortals in order that they may have food hesitate not at all to deprive plants and animals of their lives. We are all cannibals, whether we be vegetarians or whether we be omnivorous. We are all zoöcidal. And man has less objection, perhaps, to killing his fellowman than he has to killing other animals. History tends to confirm the pessimistic notion that man's chief business throughout the ages has been to kill his fellowman. A cynical member of my own profession remarked to me a year or so ago that the only interest Government has in the citizen is: to tax him, and to stand him, if the need arise, in battle line. I am not acquainted with the Government's mind, if it be so endowed, but I am inclined to the belief that organized society is burdened both by paying for the last war and by making preparation for the next one, and, in spite of rhetoric and romance, the chief business of warfare is the wholesale and glorified destruction of human life. Man engages in no other activity with so much zest and so much self-approval. The warrior is always the Instrumentality of The Divine. And the custom of this universal killing must have in it somewhat of virtue, otherwise it would not continue. Whatever is, if not right altogether, must have in it some degree of rightness; otherwise it would be self-destructive.

All progress, whatever the term may imply, carries with it no little destruction. Not long

ago a friend carried me to a mountain top to look upon some development, as he called it, in which he was taking evident pride. He had planted a saw mill in the midst of a forest that had apparently never been touched by the hand of man. Such slaughter of living matter I had never before looked upon! I am still all but appalled by the memory of that terrible destruction of magnificent age-old trees. But out of the deadened material would arise homes, and countless men would be set to work in other fabrications both useful and artistic.

Just as life has its origin in life, even so progress it would seem, has its beginnings in destruction. The new mechanism makes useless the old; the ox-cart falls to pieces in the barnyard; the old road, with its fills and cuts and bridges, paralleled by the new strip of concrete, becomes obliterated by the passing of the years, and old landmarks disappear. Matter establishes new alliances; it changes forms; it brings about the transformation of energy; and, in whatever way possible, matter and energy project themselves into the future and some of these transformed projections we call Life.

Upon that latter phenomenon, in some form, we look each second of every day; we think of its occasionally; we speculate somewhat about the origin and the meaning and the destiny of Life. But, in spite of its omnipresence; in spite of its mystery; in spite of its importance, we let it pass. We are not shaken by living in its midst; we are not overwhelmed by its universal presence. We are accustomed to it, but we know essentially nothing about it. Little do we wonder at its beginning—Birth; little do we comprehend the meaning of its individual course—Personal Existence; nothing at all do we know of its termination—Death. But the latter change we accept usually with commendable equanimity, unless the termination be brought about by suicide.

No other human behavior causes such perturbation in the family and in the community. A few years ago I had occasion to seek an interview with a State official who occupies an important judicial position. One of my patients, who was much depressed, was await-

ing trial for a minor violation—if there be such a thing—of the prohibition law, and I was somewhat apprehensive that the patient might take his own life. But the official did not share my fears. On the contrary, he expressed the opinion that liquor law violators would save the State and the nation much worry and even more expense, perhaps, if they would all put an end to their individual existences. But I was especially interested in the official's emphatic assurance that I need entertain no uneasiness about the life of my patient whom he had never seen; that suicide arose always out of one of two causes—domestic or financial worry. My ignorance caused me to remain mute in the presence of the legal and official opinion, but I did eventually express the hope that my informer might request a place on the program of the approaching meeting of the American Psychiatric Association in order that he might offer to that group of able medical men a much-needed explanation of the meaning of suicide.

Recently in a Southern city an important official was forced to retire from office by the demands of some of the citizens of that city, upon the assumption that he had been responsible in some measure for the loss sustained by the city in the failure of a bank. For many years he had been a leader in the civic and the official life of the community. He had probably accepted the community's estimate of his own character and of his own usefulness, and he must have lived inspired by such appreciation of himself and of his activities. But when fortune went against him; when his neighbors began to murmur against him; when they called upon the law to demand that he give an account of his official acts, then he became unable to survive, not so much because of the hostile atmosphere around him, as because of his inability to live in companionship with the new estimate his neighbors had formed of him. He informed them by a note found after his death that their recently developed opinion of him was mistaken; that he had preserved intact and untarnished his character. Life with this new companion that the community had given him probably became increasingly intolerable to him and he removed himself by his own hand from amongst them. In his very prime he terminated his life; and then the community, his

own neighbors and his former friends, must have decided that their long-time estimate of him was the more correct estimate. They came in thousands to his bier, perhaps to wash away with their tears their late, harsh criticisms of him. But he was dead. Such an assemblage, such eulogies of him, such appreciation of his life, such sympathy—had all these feelings been expressed a week sooner his death would probably have been prevented and he would have been given such happiness as he had never known before.

Out of such a mental situation suicide probably always arises. Emerson spoke of the duality that bisects nature. The law of compensation holds: day, night; mountains, valleys; activity, idleness; white, black; good, bad; hope, despair; protection, assault; life, death. Every mortal must be at least two individuals. The one may be propelled by hope; the other held back by doubt or fear. The one may be filled with the joy of life; the other may be troubled by thoughts about life's futility. The one-part may yield to the instinctive urges; the other-part may strive for a clean and wholesome existence. The spirit and the flesh, we read, are at war. Even in the most placid individual there must be always at work the most annoying and disturbing intra-individual forces. Life must be a constant warfare not only without, but much more so within, the individual. Primitive and instinctive hungers make their incessant demands; civilization insists upon the imposition of conventional restraints. The acquisitive instinct and the laudable desire to possess may suggest one course of action; an official position or activity in a religious body may raise doubts about morals.

One's most intimate neighbor is one's own self. One's best or one's worst neighbor is one's self. The individual's censor dictates the terms upon which comfortable companionship with one's self must be found. But I doubt if there can be such an act as suicide. The term, self-homicide, might be better used. Those words imply the killing not of one's self, but of another human being. The individual who is said to take his own life probably kills always not himself but that other portion of himself with which he can no longer have tolerable companionship. The individual's estimate of the character of his other part, of which he so highly disapproves, may

be invalid. The opinion may be the manifestation of a delusion. So, also, on the other hand, may the person's highly inflated opinion of himself be, likewise, delusional. The observation comes out of Plato, I believe, that human experience is relatively useless and that judgment is difficult. Most of us are influenced, dominated, indeed, I am tempted to say, by the community thought, and most of us yield readily to the influence of the neighborhood's approving estimate even of ourselves. In consequence, an individual of indifferent character and relative uselessness may easily come to adopt his neighbor's good opinion of himself. In such fashion the down-and-out man may be lifted up and made a useful citizen. But I know of no sadder sight than a human being who has lost the esteem of his fellows, unless it be the individual who has developed the delusion that his former friends no longer think him worthy. It is not at all impossible for a thoroughly good man to become dominated by the idea that he is a bad man all because he believes his neighbors think him to be a bad man. Suicide must represent the attempt of the individual to destroy that portion of himself with which he can no longer exist in any degree of comfort. The tragedy in the act lies in the completeness of the destruction. Through the success of the assault the entire organism—the good and the bad; the approving element and its disapproving antagonist—is all swept away. Suicide, I have little doubt, is the result of a fatal bout in which there are but two opponents—two portions of the individual—and no referee. The dualities can no longer live together; one must insist upon having the satisfaction not only of putting the other part out of existence, but the gratification, also, of punishing the other part by killing it. Every person who commits suicide has probably, in his own opinion, performed a solemn duty. He has destroyed not only that personal enemy with whom he could no longer have comfortable coexistence, but by his heroic conduct he has, also, rid the community of a menace.

Suicide is a confession — a gruesome and tragic confession—of the impossibility of the continuation of such a companionship. Is the act a manifestation of lack of courage? Were the two duelists who met on the field of honor cowards? Did Andrew Jackson exhibit lack of courage when he met on such a field the

best pistol-shot in Tennessee? In the individual who engages in mortal combat with himself lacking in that quality which mankind most admires—courage? The soldier, dead in battle, "sinks to rest, with all his country's honor blest"; the duelist had the approval at least of his admirers; but the individual who kills himself has for ages been stigmatized with charges of cowardice and criminality. Our attitude toward the act is wrong. Suicide is one of man's self-protective devices—his last desperate effort to salvage something from the ruins that are falling around him. The act represent the individual's effort to save one part of himself by slaying the other part. Could he come back to the court of public opinion he could make reply to the charge: I acted, Your Honor, in self-defense.

"I am in their bosoms,
And I know wherefore they do it".

Marc Antony was cunning in his understanding of his fellow, but there is little evidence that he either understood himself or had control over himself. Were we able to know of our fellow what Antony professed to know of his enemy on the other hill, then so-called suicide would be a rare occurrence. To understand is difficult: to condemn is easy.

THE ANCIENT PHARISEE STILL LIVES—AND PROSPERS

A member of the General Assembly of North Carolina now in session in Raleigh has introduced a bill the enactment of which into law would make it legally possible for physicians to prescribe whiskey and for druggists to fill such prescriptions. The member must be an unusual, and perhaps a bold, man. Probably he is a wag. Mayhap he is a diagnostician. His effort may be to find out more about the candor and the character of his fellow-assemblymen rather than to make alcohol a drug in North Carolina.

In isolation the fluid is in exceedingly bad favor throughout the State. In proper company, however, the substance moves in the best circles of society, and is highly praised by editors, ministers, humanitarians, uplifters, nonagenarians, neurasthenics, those-with-opinions-for-sale, by quack doctors, and by some druggists. In North Carolina the physician cannot legally prescribe whiskey, the druggist cannot legally sell it, and the patient

cannot legally drink it—unmixed. But if some stuff be entangled with the alcohol, and the admixture be labeled a medicine, then the concoction may be passed over the counter to a child or to a dotard by a druggist who is an elder in the church, and the drug store may be owned in part or entirely by a physician who is now a member of the General Assembly or the mayor of his town. All folks of a modicum of intelligence, including editorial writers and advertising managers of newspapers, know well enough that much so-called proprietary medicine is only an alcoholic beverage mildly disguised by some flavor and by a life-preserving label. Were such substances replaced in drug stores and department stores by pure whiskey both the health and the morals of the communities would be improved. Of what might happen to the ecclesiastical standing of the owners of the stores I have no doubt at all. All of them would be church-ed and chain-ganged as was Socrates, the bad old Athenian, for corrupting the idle youth of the city. And much of the proprietary drug curse is unmitigated by alcohol as a solvent and a diluent. Most of the stuff is wholly bad. It not only fails to do good to the physical or the mental mechanism; it does great harm. Yet druggists and physicians continue to hand out these damaging, many of them deadly, substances daily, by the car-load. Most of those who are engaged in purveying such unwholesome substances are leading citizens of their communities and of the State. I have not yet heard of any effort made in the General Assembly to ascertain the amount of damage to the health and to the morals and to the purses of the citizenship by the unrestricted sale of these widely-advertised and highly-approved conglomerations. What publication makes any effort to find out what damage it is doing in carrying daily in its pages approving advertisements of these substances? The bootlegging whiskey business is said to be highly profitable to those engaged in it. How profitable to publications is the advertising commendation of patent medicines? Let some of them speak out. Druggists and physicians who own drug stores in part or wholly could also furnish information. I have no definite knowledge of the magnitude of the so-called bootlegging industry.

I feel assured, however, that the widespread use of vile whiskey in the United States is not so damaging to the health of the

citizenship of the country as is the use of proprietary drugs. By the sale of some of these substances the health of the people is often impaired, deaths are caused, newspapers are enriched, communities and institutions and churches are endowed and subsidized, candid opinion is hushed, and leading citizens are transformed into hypocrites. Who doubts that the manufacture and the sale of patent medicine in the United States is one of the great industries—and curses?

But only a moment ago, in a great daily paper, which probably thinks that the Prohibition law should be made the eleventh constituent of the decalogue, I counted 26 advertisements of proprietary drugs.

In the commonwealth of Virginia physicians may legally prescribe whiskey, druggists may legally fill such prescriptions, human beings may legally drink the whiskey so procured. Yet I have not heard that the physicians of that old State have been demoralized, the druggists debauched, and the population alcoholized. And the sale of many drugs which can be bought freely in many other States can be obtained in Virginia only by a prescription from a physician.

UROLOGY

*For this issue, M. F. FOWLER, B.S., M.D.
Atlanta, Ga.*

THE TREATMENT OF GONORRHEA BASED ON A STUDY OF 1,000 CASES*

It is needless to say that, in spite of the fact that the management of this disease was our first task, our efforts have not met with success of which we might justly be proud. This possibly explains why some of us feel that we have graduated from the treatment of gonorrhea and further limit our work within the specialty, devoting our time to the more spectacular, strictly surgical phase of urology.

Mindful of the true spirit of the healing art, a physician could not possibly better direct his scientific efforts than in the proper treatment of a disease which affects such a large percentage of the human family as does gonorrhea. This, with the spread of information on prophylaxis would spare innumerable

*Presented by Invitation to the semi-annual meeting of The Urological Association of South Carolina, meeting at Orangeburg, November 25, 1930.

individuals the humiliation and too often disaster which they least deserve.

Through the efforts of urologists the treatment of this disease has been advanced to a dignified and scientific position, along with other specialties, where it justly belongs. The successful management of gonorrhea requires as much skill as the majority of other diseases and conditions that generally demand the attention of an expert. The jocular references so frequently aimed at urology are entirely out of place and should be discouraged by the whole profession.

Although we have not found even a near specific for gonorrhea, progress has been made in its treatment. Urologists who have practiced for 30 years or more are impressed by the fact that they see decidedly fewer strictures to a filiform, and fewer cases with acute retention due to stricture than they used to. This indicates that the causative infection is being more skillfully managed. The fact that the incidence of gonorrhea is diminishing in spite of the more promiscuous sexual indulgence especially since the World War, is a compliment to the urologist's success in treatment as well as to his efforts in teaching prophylaxis.

There are certain general principles and factors operating in the treatment of gonorrhea that are fairly well agreed upon. Early recognition and treatment are essential to good results. In our practice patients who begin treatment on the first or second day after the onset of the disease, when the first urine is clear or just hazy, are cured in less than half the time required for those patients who delay starting treatment for several days until posterior extension has taken place. The incidence of complications is proportionately less in the group that commences treatment early.

Regular treatment should be insisted upon. The best coöperation of patients is insured by daily office visits. Our records show that patients treated regularly are well in about half the time required for those treated intermittently, and suffer correspondingly fewer complications.

Strenuous physical exercise and exhaustive work should be avoided if possible. Patients who have to exert themselves physically carry the infection on an average of three weeks longer than desk workers and are much more liable to develop complications. Patients

who have suffered one attack present themselves earlier for treatment and coöperate better if they are again unfortunate. The duration of gonorrhea in patients with their first attack is, on an average, 12 days longer, and complications more numerous than in patients with subsequent infections.

Force in making anterior injections and in irrigating should be carefully guarded against. Doubtless many painful and avoidable complications are produced by rough and meddlesome instrumentation. We should remember that our efforts in combating this infection amount to killing only part of the gonococci with drugs while nature operates as the main curative factor.

Probably no other disease has been attacked with such a conglomeration of remedies. Competent urologists use different drugs and varying technic with virtually the same results. So it is evident that the selection of a certain drug from a group of acceptable ones is not of paramount importance. A statement that I once heard a dermatologist use with reference to the treatment of dermatitis applies in general to gonorrhea, "When acute, soothe; and when chronic, stimulate".

As to internal medication, we believe santal oil, methylene blue, pyridium, potassium citrate and hyoscyamus are of some value. Santal oil in acute urethritis seems to have a beneficial effect on the mucous membrane of the urethra and lessens irritation. Methylene blue, potassium citrate and hyoscyamus are of value in posterior urethritis with frequency and dysuria. Pyridium seems to be an aid in acute posterior urethritis and in both acute and chronic prostatitis.

As an anterior injection the group of organic silver compounds are probably best. We use argyrol in the office but let the patient use neosilvol for the first week or two and protargol thereafter. Acriflavine is a good anterior injection but its use requires a more precise technic and there is probably more danger of producing complications with it than with the organic silver compounds. For irrigating, potassium permanganate is probably the safest and most reliable drug. Acriflavine is possibly just as good. Boric acid and silver nitrate have a more limited field of usefulness.

Gonococcus combined vaccine seems to be of definite value especially in the complications of gonorrhea. Aolan and sterile milk

injections serve a similar purpose and possibly as well.

The brief outline of our management of gonorrhea which is to follow is not offered as a criterion, but merely as a procedure which produces most satisfactory results in our hands. We believe that the simplest means and methods of accomplishing the ends are best.

Our general instructions to the patient are few and simple. Alcoholic and carbonated drinks are prohibited. Only foods highly seasoned with condiments are omitted from the diet. The patient is advised to refrain from sexual intercourse and violent and unnecessary physical exertion. The patient with acute anterior urethritis is told to drink water freely during the first several days and avoid constipation. Five-minims santal oil capsules, one, three times daily after meals, are prescribed for about two weeks. For the first three or four days two anterior injections daily of 10 per cent argyrol solution are given in the office. By that time the inflammation has somewhat subsided and the patient has observed the technic of making an injection. He is then given a two drachm asepto syringe and enough 5 per cent neosilvol to last about a week. Instruction are given for the patient to take an injection morning and evening at home and return to the office once daily, about noon, for observation and the argyrol injection. After the first week or two the patient's home injection is changed to protargol, $\frac{1}{4}$ to $\frac{1}{2}$ per cent solution.

Many patients are cured within a few weeks by this treatment alone. If the anterior urethritis persists for five or six weeks without obvious cause, the prostate is gently examined and the urethra investigated for stricture and infected follicles. If the meatus is abnormally small, meatotomy is performed provided the urine is reasonably clear. If stricture is found it is dilated every second or third day by sounding the anterior urethra only. Infected follicles are massaged gently against the sound in the urethra. Gonorrhea is frequently prolonged or allowed to progress by delaying too long making the above investigations.

After 10 days or two weeks daily potassium permanganate, 1 to 5.000, irrigations are substituted for the argyrol injections. In the uncomplicated cases when the urine is clear with shreds in the first glass, the patient is allowed

to leave off one of his injections at home. When the infection is apparently well all home treatment is discontinued but the irrigations kept up for several days before beginning the tests for determining whether the infection is cured.

In posterior urethritis with frequency and dysuria, the intake of fluids is restricted so as to give more rest to the parts. Methylene blue, one 2-grain tablet three times daily is given. Frequently, as soon as the urine becomes blue the symptoms are greatly improved. Argyrol instillations are substituted for the irrigations. If the symptoms are extremely severe, nothing seems to give relief like irrigating with warm boric acid solution. If the prostate is infected the treatment is the same except for massage every second or third day and gonococcus combined vaccine in increasing doses at 2-day intervals.

Prostatic abscess is the most painful complication of gonorrhea with the possible exception of arthritis. Large doses of morphine are frequently required to make the patient comfortable. Very gentle prostatic massage even before suppuration has taken place seems to lessen pain and improve the condition. Vaccine is administered every second day in increasing doses. Hot sitz baths lasting from 15 to 30 minutes are given two or three times daily. Sometimes hot retention enemas seem to give relief. Argyrol instillations or hot boric acid irrigations are the most satisfactory local treatments.

Gonorrheal arthritis is a subject in itself. Briefly, it is treated by completely immobilizing the affected joint or joints by means of a plaster cast. Vaccine is given at 2-day intervals. Local treatment of the gonorrhea proper is continued with vigorous attack upon any focus such as an infected prostate or peri-urethral abscess. As soon as the acute inflammation in the joint has subsided, usually after two or three weeks, the cast is removed and function restored by baking and manipulation.

Epididymitis is treated by rest in bed, with testes elevated and ice cap applied continuously. Local treatments are discontinued and vaccine commenced. Codeine or morphine is given if necessary for pain. As soon as the acute stage is over a suspensory is applied and the patient returned to work. Local treatments are resumed very cautiously.

Infected urethral glands constitute one of

our most troublesome complications. Treatment is not as effective as it should be and we are left with more uncertainty as to cure than in any other condition. If the gland abscesses we incise and irrigate the sinus daily with argyrol, mercurochrome or acriflavine. The small infected glands are massaged against a sound in the urethra or cauterized if easily accessible.

In cases that continue to show a morning drop after everything else appears normal, we find pyridium helpful. We also use silver nitrate in the deep urethra either through the endoscope or through the Bangs syringe sound. Of course we massage the prostate, sound, and irrigate with silver nitrate or per-nitrate in the deep urethra either through the manganate during the course of the treatment.

After the urine is clear and the patient is apparently well our next and most important duty is to determine whether he is free of infection. We do this by using anterior injections of 1 per cent silver nitrate in an effort to provoke to activity any latent infection in the urethra. The injection is repeated several times at intervals of a few days. To determine whether the prostate is free of infection, the penis is cleansed and the prostate massaged gently but thoroughly. The fluid is examined both in wet and stained smears. This is repeated several times at intervals of a few days. If all these tests prove negative all treatment is left off and the patient told to resume his usual routine of living except to avoid exposing anyone to possible infection. We never advise a patient to dissipate as a test, because we believe it unbecoming a physician to encourage practices which so frequently terminate disastrously. After a month the patient returns for a final test as described above and if negative, he is dismissed. The patients who have had a prostatic infection or infected urethral glands, we try to follow up for at least three months after treatments are discontinued, making tests at intervals of 30 days.

—313-14-15 Grant Building.

SURGERY

*For this issue, L. EMMET MADDEN, M.D.
Columbia, S. C.*

PRE- AND POST-OPERATIVE MEDICAL TREATMENT OF DIABETIC PATIENTS

Before the advent of insulin, the surgical mortality among diabetic patients was appall-

ing. At the present time, however, the prognosis is almost as good as for any class of patients. This improvement has been in the most part due to our ability to avert ketosis and diabetic coma.

Under the treatment, we must divide the cases into two classes. First, the class in which the surgical procedure is not urgent and in which we can take our time to improve the diabetic condition; second, the class in which the surgical procedure is demanded in the course of a few hours.

The treatment in the first class of patients is the same as for any diabetic. That is, we should take our time and get the patient's blood sugar to normal and keep it normal on a definite maintenance diet. When we have accomplished this, we are then ready for the surgeon to do whatever is necessary.

Following the operation, the patient should have a larger amount of carbohydrates than before, this increase being taken care of by an increased dosage of insulin. If we follow this practice, we will avoid any danger of ketosis. The urine and blood should be examined at frequent intervals during the first few days and until the patient can return to the preoperative diet.

The second class demands quite a different plan of treatment. Upon admission to the hospital because of an acute surgical condition, routine urine examination should be made immediately, especially for the ketone bodies, acetone and diacetic acid. If these are present, no time must be lost, for each case should be considered as potentially a case of diabetic coma and so treated. In those cases in which fluids can be taken by mouth, the immediate dose of 40 to 80 units of insulin should be given, followed by a rich carbohydrate diet of such things as orange juice, orange juice plus glucose, or skimmed milk, every hour or oftener. As long as ketosis exists, there is no danger of a hypoglycemia reaction, and 20 to 30 or more units of insulin can be given every 30 minutes, if necessary. In this way, most patients can be freed of ketosis within a few hours. At this point it is safe to undertake any surgical procedure for which no further contraindication exists.

If an acute abdominal condition is present, or if the patient is unable to retain food or fluids by mouth, the initial dose of 40 to 80 units of insulin is given and followed by the injection of glucose intravenously, 300 c.c. of

a 25 per cent solution being the average amount. This can be repeated as necessary. Urinary specimens should be examined frequently for ketone bodies. When the urine is free of acetone and diacetic acid, one is justified in proceeding with the operation.

In these cases it is undesirable to try to render the urine sugar free, for unnecessary time will be consumed and an excess of sugar in itself is not dangerous.

Following operation, the same care should be exercised to prevent ketosis. At this time, however, we should try to reduce the blood sugar to a normal level. Until all danger from the operative procedure is over, we should try to reduce the blood sugar to a normal level. Until all danger from the operative procedure is over, we should give a diet rich in carbohydrates and poor in fats. In cases in which feeding is contraindicated, glucose by rectal drip, or intravenously, must be continued, using insulin to control ketosis and hyperglycemia.

During convalescence, the patient's carbohydrate tolerance should be determined and an accurate diet with the necessary insulin requirement instituted.

INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*

THE MANAGEMENT OF PERNICIOUS ANEMIA

Certain facts should be clearly laid down with regard to pernicious anemia, so that there may be no question of confusion. These are:

1. Pernicious anemia represents a definite entity and a definite blood picture.

"The outstanding feature of the disease is the peculiar anemia. There is diminution in the number of red cells, white cells and blood platelets; the red cell diminution is greatest, counts of 500,000 or less not being unusual. The hemoglobin is somewhat reduced but not in proportion to the reduction in the number of red cells; consequently, there is always a color index higher than one. In addition there is marked anisocytosis with macrocytes predominating, marked poikilocytosis, and diffuse and punctate polychromatophilia. A variety of nucleated red cells, and occasionally mitosis is seen. In the beginning of a remission there is an increased number of reticulated red cells."

2. Liver extract is of no use in secondary anemia; whole liver may be, as there are elements therein not present in liver extract.

3. Iron is of no use in pernicious anemia.

4. Next to whole liver or liver extract, transfusion is the best mode of treatment of pernicious anemia.

It is a rather remarkable fact that since Addison first discovered P.A., three-quarters of a century ago, very little had been done in the progress of its management, until Murphy and Minot, of Boston, following the work of Whipple, announced that liver contained an element that stimulated blood regeneration. It is now known that half a pound of liver, taken as part of the daily diet, will cause an increase in the number of new red blood cells in circulation. The first change noted is the appearance of a large number of reticulocytes, which reach their maximum at the end of the ninth day, and at the end of three weeks they are almost back to normal. The hemoglobin is not particularly affected. There does not seem to be any action, either by whole liver or by the extract, upon any of the neurological conditions associated with P.A.

The administration of liver is not so easy. The patient becomes tired of it or, which is worse, "turned against it". Fortunately its preparation is immaterial in the sense that it will be quite as effective no matter how it is prepared, and therefore the individual taste of the patient can be catered to. As the active liver fraction is soluble in water, any water used in boiling the liver must be added to the liver when it is eaten. There are many extracts of the active liver fraction on the market. It must be borne in mind that they are not all equally potent and that a general product may be potent at one time and not potent at another. It has been stated that "an effective liver extract should cause an appreciable rise in the number of reticulated red blood cells in from the fourth to the sixth day, in patients whose initial red blood count is below 2,500,000 per cubic millimeter."

The great objection to all the liver extracts is their taste, which is far from pleasant, but patients often find it easier to take the extract in powder or liquid form than to eat daily half a pound of whole liver. When the patient's blood has reached normal, the dose of liver can be given five times a week, blood observations being continued of course, and later can be gotten down to three times a week.

The maintenance dose of liver extract, while it has not been accurately determined, is probably around 300 grams of liver three times a week.

There has been a tendency, since Murphy and Minot first published their observations around which there has arisen a vast amount of literature, to prescribe liver or liver extract for any and all sorts of anemias. This would appear to be unwise therapeutics and to serve to discredit the very valuable function of the method in true cases of P.A. An accurate diagnosis is absolutely necessary. It is believed that the administration of liver must be continued permanently, and it is highly to be desired that the science of pharmacy will devise some means of disguising the taste of the active liver fraction so that its administration be less of a trial to the patient.

The superiority of the treatment with liver over all previous methods is most striking, both because of its results and because of the absolute simplicity of the treatment. The former frequent and repeated transfusions were relatively complicated and also exceedingly costly to the patient. It is also desirable that the price of the various extracts should become lower, as they doubtless will when simpler methods of preparation are discovered.

All in all, the discovery of the value of liver in the management of P. A. constitutes a new and brilliant chapter in the therapy of a disease which, prior to the introduction of this method, was in the end uniformly fatal, despite the fact that with the aid of transfusions, remissions were frequently obtained over a considerable period of time.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D., *Editor*

SYNOVECTOMY OF THE KNEE JOINT

There are certain cases of arthritis where the capsules of the involved joints become foci of infections and remain so after original sources of infections have been removed. In some of these cases the operation of synovectomy is helpful. In a recent issue of the *Journal of Bone and Joint Surgery*, Boon-itt has reported the end results of synovectomy of the knee joint in a series of cases of chronic arthritis. He observed that during the past ten years several papers on synovectomy have been published; and the history, merits and

technique of the operation have been exhaustively discussed. It is not the purpose of his paper to enter into these matters, but merely to present a study of the end results of a series of operated cases. The author reports 65 cases of knee synovectomies performed upon 53 patients in the Department of Orthopedic Surgery of the State University of Iowa from 1921 to 1928 inclusive.

The decision for a synovectomy was generally made by the head of the Department after study of the individual case. It is believed that synovectomy is by no means a general treatment of chronic arthritis, but rather that it has a very limited field of usefulness among carefully selected cases. During the past nine years more than 1000 cases of arthritis of the knee came to the University clinic for consultation and treatment. Less than six per cent, of these cases were treated by synovectomy.

The technique employed was, in general, the same as that recounted in the literature. In the earlier cases the knee joint was opened by the transpatellar route of Jones (56 per cent). In more recent years the incision has been made medial to the patella (40 per cent). In the remaining few cases (4 per cent), a U-shaped incision was used. In some cases complete synovectomy was done, while in others the synovial membrane was partially removed. In still other cases the fat pad, and at times the semilunar cartilages were removed together with the synovial membrane. The wound was generally closed without drainage, and posterior splints of plaster were applied. Motion and physiotherapy were instituted to the parts as soon as the individual cases permitted. The cases in this series were divided into two groups: A. Polyarticular group, consisting of 29 cases—54½ per cent of the total number of the cases, and B. Monarticular group comprising 24 cases—45½ per cent. Sixty synovectomies of the knee were under the observation of the Department from one year to ten years. The end results are divided into two general divisions, as improved and unimproved. In a study of the end results of the series presented in this paper it is noted that of the cases listed under chronic infectious arthritis less than two-thirds of the total number synovectomized—61 4/5 per cent, showed improvement and a little over one-fourth of the cases—26 2/5 per cent, were not benefitted at all by the operation.

Four cases—11 4/5 per cent, in the group of unimproved were temporarily benefitted by the operation for a period of 18 to 33 months, before a relapse of the symptoms occurred. About the same percentage of improvement is to be noted under the chronic hypertrophic arthritis of the polyarticular type. In Swett's series of 32 cases of chronic infectious arthritis there were seven cases of relapse, and in Speed's series of three cases there were two cases improved. In the present series, by grouping the two arthritis conditions under the polyarticular type together, we have 61 3/5 per cent improved, while the rest were partially relieved, temporarily relieved, or not relieved at all. The end results of the monarticular type show a higher percentage of improved. Traumatic arthritis heads the list, giving the best results of practically 100 per cent improved. Not all, however, obtained good functional motion after the operation, though all of them have good weight-bearing. Of this type of arthritis but one case of the series showed erosion of the articular cartilage. The result was excellent in this instance. Of the two types of chronic arthritis of the monarticular type, there were two cases with a relapse of the former symptoms, one after a good result lasting 57 months and the other with a fair result for 72 months after the operation.

In this series the tuberculous arthritis cases obtained no relief from synovectomy, and these three cases had the knees fused from one to 15 months after the synovectomy. Stiles in the discussion of the result of synovectomy of the tuberculous joints say: "In diffuse tuberculous disease of the knee joint, the writer has practically given up all operative procedures which do not aim at producing osseous ankylosis". In cases where the tuberculous process is confined to the synovial membrane, synovectomy may bring the relief of pain, but it is at the expense of the loss of motion. However, the cases seen are rarely of this type.

Summarizing, then, it appears that in well selected cases of chronic arthritis of the polyarticular type about 60 per cent of all cases are benefitted by synovectomy, while in the monarticular type about 75 per cent of the cases are improved by the operation, that traumatic arthritis has a high percentage of good results (95 per cent) after synovectomy

and that tuberculous arthritis of the knee does not obtain relief from synovectomy.

—Medical Arts Building.

OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*

WHAT SHOULD NOT BE DONE IN THE LAST TWO HOURS OF THE SECOND STAGE OF LABOR

Our reason for mentioning these things is that the results in our country for the past year are not encouraging; our fetal mortality, premature deaths, stillbirths, maternal deaths and maternal morbidities are really a disgrace to any civilization which has so many other fine standards outside of this field.

First, the consideration of cesarean section. In a majority of cases of cesarean section the general surgeon is called upon to do the operation. He orders a hypodermic of morphine and atropine 25 or 30 minutes before; he operates; the baby is delivered apparently in good condition; a few minutes later it is discovered that the baby's respiration is slow and lazy; it gets blue; there is much concern about its future. In many instances the baby is given little or no attention and in a few hours it is discovered dead. It has gotten the accumulated effect of the morphine. If the baby had been watched carefully by someone who knew how to manage these cases it would have been saved. Morphine should not be given; neither should hyoscine, before cesarean section. General anesthesia or spinal or local will not affect the baby and any one of these can be used successfully without a preliminary hypodermic injection.

In deliveries by the birth canal, whatever type is anticipated, a hypodermic of morphine and hyoscine or atropine should not be given within the two-hour limit before delivery. If there is a possibility of the patient having to be delivered before the two-hour period is past it is very much better for the patient and the baby if the hypodermic is omitted. It is perfectly safe to give it three or four hours before delivery and, when it will affect the baby little, if any. The same principle applies to delivery by the birth canal, with reference to hypodermics, which applies to delivery by cesarean section.

If, during the last two hours of the second

stage of labor, the head does not engage and come down, we very much doubt the wisdom of applying high forceps. A great many men give two hours as a test for the head passing through the cervix down into the birth canal and when it has not passed they put the patient to sleep and apply high forceps. Cesarean section would be safer for the baby and mother.

The bladder should not be allowed to be full of urine at the termination of the second stage of labor. Many pay no attention to the bladder at that time. They think that nature will empty it sufficiently, and in many instances there has been great damage done to the bladder which follows the patient the remainder of her days.

Pituitrin should not be given to terminate the second stage of labor. In the minds of many is the idea that pituitrin is not dangerous and that it will shorten the second stage of labor and save the physician time if he will use it. Many stillbirths and premature deaths of babies are due to the use of this powerful drug; also irreparable damage is being done constantly to the mothers by this useful, yet, when misused, dangerous drug.

The bag of waters should not be ruptured until the head is known to be well down in the birth canal and almost ready to be delivered. To rupture this prematurely invites infection, also danger to the birth canal which could be frequently avoided. Too, it endangers the baby's life.

EYE, EAR AND THROAT

V. K. HART, M.D., *Editor*

TONSILLECTOMY IN ACUTE CERVICAL ADENITIS IN CHILDREN

Tonsillectomy has long been practiced in chronic cervical adenitis. It has not, however, been recommended in an acute adenitis until recently. Baum¹ has recently published a splendid article urging immediate tonsillectomy in these cases. This article is largely a review of his work.

Let us take up an average case. There is an acute upper respiratory infection, an acute nasopharyngitis, with or without an acute tonsillitis. As the nose and throat symptoms begin to subside (about seven days from on-

set) there is a marked swelling and induration of the glands of the anterior triangle on one or both sides. The child is fretful and has irregular temperature, a leucocytosis with a percentage increase in polymorphonuclears and a decrease in hemoglobin, a varying degree of prostration and, of course, soreness and tenderness of the glands. The average age in Baum's series of 40 cases was 3.6 years.

The adenitis tends to come and go. It may persist for six or eight or even 12 weeks and will eventually form an abscess or subside. The temperature is of an irregular septic type varying from three to four degrees in a few hours. These little patients are surprisingly well until later in the disease when the anemia becomes evident. If the disease has been allowed to run as long as two or three weeks the anemia may be as low as 40 per cent, "and ranging from there as high as 78 per cent, the average for the series being 69.9. The red cells are also reduced but not usually in proportion to the hemoglobin."

The white count varied from 17,177 to 34,100 in Baum's cases. We recently had in this clinic a child with a white count of 80,000 which proved on differential study to be purely secondary to the infection.

Baum mentions as complications acute otitis media, probably secondary to the nose and throat infection which precedes or accompanies the adenitis (13 cases); acute hemorrhage nephritis (7 cases); pyelitis (2 cases); pharyngeal abscess (3 cases); and suppuration of the glands (3 cases).

The only logical treatment for these cases, not immediately responding to ordinary methods of treatment, in tonsillectomy. It should be done as early as possible after it is seen the case is not progressing satisfactorily without it. Baum states, "I am not deterred by the age of the patient, by the presence of fever, by the high white count and loss of hemoglobin or by the toxic condition. Neither does the fact of recent recovery from an acute tonsillopharyngitis serve as a deterring factor, so long as the throat is not then the seat of a frankly acute inflammation, which it never is by the time the glands are well established in their inflammatory reaction. It may be accepted as a fact that by the time the glands assume the proportions of an unmistakable acute adenitis the throat inflammation has subsided from its preceding acute stage and it is safe to operate. This statement is made in the full knowledge that these cases are prac-

1. BAUM, HARRY L.: Tonsillectomy in Treatment of Acute Cervical Adenitis in Children. *Journal A. M. A.*, 95:1829, Dec. 13, 1930.

tically always due to streptococcus hemolyticus, which organism has been obtained in culture from the depths of the tonsils after removal in practically every case so studied, and from the pus from pharyngeal abscesses and suppurating glands when drained in this series of cases. There is a factor of local immunity established in the tissues on which the surgeon may depend and there seems to be no danger of increased general sepsis from the surgical intervention, as has been borne out by experience."

Of course, an adenitis may occur despite a tonsillectomy, because these glands also drain the pharyngeal mucous membranes. However, most authorities agree that adenitis is much less frequent in tonsillectomized children.

Baum in part concludes, "If this paper has any justification whatever it is because it advocates and defines the principle that it is safe, not dangerous, to remove tonsils and adenoids during the height of an acute anterior cervical adenitis, and that such treatment is the most satisfactory in its results of any yet advocated for the condition. Hence, the paper defines the performance of a surgical procedure which is contrary to preconceived opinion, recognizing the fact that the operation may frequently be done in such cases in as short a time as two weeks, or even 10 days, from the date of onset of an acute tonsillopharyngitis. This defies a certain prejudice known to exist against early tonsillectomy following an acute tonsillar infection. With this prejudice, as applied to cases in which definite therapeutic benefit promises to accrue, I do not agree."

In this clinic we have recently operated on several of these children during the acute stage of the adenitis. Unmistakable and immediate benefit has occurred in all cases. In one case the glands subsided in 48 hours. In another case, suppuration of the glands occurred, although the general improvement was marked. The glands had undergone slight softening prior to operation. There have been no ill effects from the operative procedure itself.

THERAPEUTICS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

PURGATIVES, LAXATIVES, INTESTINAL LUBRICANTS, BULK PROMOTERS, ROUGHAGE, ETC.

The abuse of purgatives is an old topic.

We have elsewhere in these columns expressed our views on this matter, so will not repeat them in any detail. Rather will we discuss the use of them as we understand it. Perhaps the most important *purgative* is castor oil. When really indicated, it is efficient, prompt, and the most reliable of all purgatives, with no objectionable features other than its vile taste. It is harmful as a rule in chronic constipation, because it has a constipating after-effect, and it is positively deadly in appendicitis. Its greatest value is when a single active cleaning out of the intestinal tract is needed in the course of some general infection, as at the onset of influenza, etc.; in certain cases of food poisoning where it is desired to sweep out the offending substances promptly, and it may be very useful in certain dysenteries with an alkaline stool. It does its work by the liberation of the purgative and mildly irritant ricinoleic acid. It is a very thorough cleanser of the intestinal tract, and the acid liberated probably inhibits to some degree the growth of intestinal flora that flourish best in an alkaline medium. Certain tasteless preparations of castor oil are advertised. If obtained *fresh* they may be practically tasteless, but do not expect any mitigation of the usual castor oil flavor if the "tasteless" preparation has become stale. As with all other purgatives, the dose varies with the individual and with the condition present. The usual dose is from one to two tablespoonfuls, but we recall one patient, the victim of a rather prolonged alcoholic debauch, who asked us to have the drug store send him some castor oil, and remarked that he wanted me to be sure to tell them not to send less than half a pint, as he never took less than that at a dose!

The salines form an interesting purgative group. The pleasantest, but most expensive of these is the official solution of magnesium citrate. The least expensive is the old Epsom salts—magnesium sulphate. Comparatively few men seem to be familiar with the modus operandi of the saline purgatives. An experiment which we made in the pharmacological laboratory in our medical school days about 20 years ago still stands out clearly in memory and teaches a valuable lesson. A dog was anesthetized and the abdomen opened. Three loops of intestines were isolated by ligation. Into one loop was injected a measured quantity of physiologic salt solution. Into a second was injected an isotonic solution of

magnesium sulphate. Into the third was injected a saturated solution of magnesium sulphate. After some time had elapsed, the three loops were punctured by needles attached to aspirating syringes, and the fluid in the loops aspirated. Very little fluid was obtained from the first loop—the salt solution had been largely absorbed. From the second loop an amount of fluid equalling that injected was obtained—the isotonic magnesium sulphate solution had not been absorbed. From the third loop much more fluid was withdrawn than was injected, showing that the saturated solution of magnesium sulphate had not only not been absorbed, but it had attracted water from the tissues and blood until it had become diluted almost to an isotonic solution. The mode of action, therefore, of the saline purgatives is to make the contents of the intestine liquid by preventing absorption of water. It is not an irritant action at all, hence it is that in some persons the saline purgatives may not act well—they retain a liquid stool too readily. Incidentally, in rare cases, there may be some absorption of magnesium sulphate, and when this occurs, the patient becomes weak and toxic from its effects. When quick action from a saline is desired, it should be taken with plenty of water. If taken in concentrated solution with very little water, it will not purge until enough time has elapsed for enough water to be drawn into the bowel to make a large liquid stool. This action is at times desirable in attempting to temporarily lower blood pressure, but it is not conducive to rapid purgation. Sodium sulphate is another old saline purgative that is not much used now. The proprietary salines are legion, but offer no advantage over the official ones. Most of them contain Epsom or Glauber's salts or both, in an unnecessarily expensive form. *Sal Hepatica*, oxycrystine, Pluto water, etc. have no superiority over official preparations except from the standpoint of advertising appeal, and the conscientious physician will prefer the old preparations which stand only on their real merits. Magnesium sulphate also has an interesting action in relaxing muscle spasm. Given orally (whether swallowed or through a tube), it may produce "medical drainage of the gall-bladder". Given intramuscularly, it seems to be of value in helping to control the convulsions of such diseases as tetanus, and it is also used intramuscularly in connection with the rectal adminis-

tration of quinine, ether and oil, in lessening the pains of labor.

We have no desire to discuss all the laxatives—they are too numerous. Many combinations, such as c.c. pills, are quite unnecessarily complex. Calomel we think a greatly overworked drug. It is probably much more useful in highly malarial sections than in our section of the country. We use it more in catarrheal jaundice in connection with a concentrated solution of magnesium sulphate than in any other condition. We have had some interesting experiences connected with calomel. A consultant once advised a dose of calomel for a cardio-renal patient and gave it as his solemn opinion that the proper average dose of calomel was 1 drachm! We did not give it! We once heard of an old country doctor who dished out some pure calomel powder on spatula and told a patient to take the powder at one dose. Instead of taking it, the patient took it to a pharmacist and had it weighed, and found that it weighed 80 grains! Many persons have an idiosyncrasy to calomel, and where that is known, the drug should be avoided. One experienced practitioner told us of a patient who could not take calomel without severe salivation and mercury poisoning. He knew it and avoided giving it, but once when the patient was under his care a neighbor insisted on giving the patient some medicine and the doctor told me the patient died of calomel poisoning, he believed. However prejudiced we may be against calomel, we will admit that there are some persons whom an occasional dose of the drug seems to help as nothing else will, and when experience teaches this, there is no harm in using it. Blue mass is another time-honored mercurial laxative or purgative, according to the dose, best used as a purgative, but with the same warning against diosyncrasy as given with regard to calomel.

Among the mild laxatives, *cascara sagrada* and phenolphthalein with its close relative, *isacen*, stand out rather preeminently. This emodin group seems remarkably free from constipating after effects, and can be used better in chronic conditions than almost any other laxatives. We have little use for the aromatic fluidextract of *cascara*; it is too inactive and too hard on the stomach in some cases—we vastly prefer the bitter fluidextract. One can start a patient on any reasonable dose—say 15 drops t.i.d., and decrease or in-

crease until the minimum dose to give the desired results is found. Meanwhile, if quick relief is needed, an enema may be used.

There are many mineral oils on the market with varying lubricating values. There is probably almost as much difference in the value of different mineral oils put out for internal use as in different automobile motor oils. A good preparation should be used. We like Squibb's. There are some excellent mixtures of mineral oil and agar, which probably do not contain enough agar to have any significant action other than as an emulsifier for the oil, but many patients prefer to take these preparations rather than the straight oil because of the more pleasing flavor and appearance. Petrolagar is one of the best of these. It is marketed as plain, with phenolphthalein, with milk of magnesia, and unsweetened; the last being for diabetics. Agarol is also widely used. The chief objection to agarol is the very small and insignificant type in which the label states that it is "with phenolphthalein", as if the manufacturers hoped that the physician and the patient would fail to notice that! We believe that many doctors who prescribe agarol do not realize that they are prescribing phenolphthalein, for this reason. We also believe that the manufacturers of these mineral oil-agar preparations have missed a good trick when they have recommended their products for internal use only. They make excellent dressings for certain hyperacute skin lesions. Our present treatment for severe eczematoid ringworm is to soak the part affected in a hot 1-per cent solution of copper sulphate, dry, and dress with an oil-agar dressing. It seems superior to any other method we have ever used.

Two preparations are used a good deal for their water-retaining and bulk-making powers—agar alone, and psyllium seed. Our success with them has been very limited.

The eating of large amounts of roughage has been carried to a great extreme and made a ridiculous fad. Alvarez, whom we consider the greatest living gastro-enterologist, has shown beyond peradventure that many persons, notably those with spastic constipation, need an essentially smooth diet. However, roughage does help many persons. Extreme forms of roughage, such as bran, we have found to be usually harmful. We have recently purchased a very great little book by Alvarez on Nervous Indigestion. (Published

by Paul Hoeber.) We think every physician should read it—it is a veritable masterpiece in astonishingly small compass.

In closing, we would emphasize as we have done previously, that the best of the laxative drugs should be considered as temporary means of relief, and the sooner the patient is able to dispense with them, the better it is for him. Diet, exercise, general hygienic measures, psychotherapy, the removal of any obvious causes for constipation, etc., are the important things in its treatment.

MEDICAL SOCIETY OF VIRGINIA FORMED IN 1821

(From the *Medical Recorder*, Philadelphia, 1926)
[Note.—Italics, except in titles are ours.—
S. M. & S.]

(Concluded from last month)

He shall keep regular accounts with the society, and between the society and the members thereof; and immediately preceding each annual election, or oftener if required by the society, shall render detailed statements of the business of his department, and shall deliver up to his successor, the books, papers, money, or other property of the society remaining in his hands.

For the faithful performance of his duties, the treasurer, before entering thereon, shall execute bond to the president and vice-presidents for double the amount with which they, or any two of them, shall judge he may probably become entrusted during his continuance in office.

6. The Librarian shall have under his custody, and it shall be his duty to take special care of all the books, essays, and whatever may constitute any part of the literary or scientific stock of the society.

The books he shall give out for the perusal of the members, under such regulations as the by-laws may direct; but no manuscript shall be carried out of the library without a special order from the society, except by the members of the committee of publication.

7. It shall be the duty of the *Committee of Publication* to select from the essays of the members, and other communications made to the society, such as they may think worthy of being published.

They shall, whenever they deem it expedient, report to the society that they have selected a sufficient number for publication; and when the society deem it proper, the committee shall publish their selection, under the title of the "*Transactions of the Medical Society of Virginia*."

After the publication of each number or volume of the Transactions, the committee shall return to the librarian, all papers belonging to the society.

(Continued on page 219)

PRESIDENT'S PAGE

Tri-State Medical Association of the Carolinas and Virginia

Beverley R. Tucker

The meeting of the Tri-State Medical Association, which was held in Richmond, Va., February 16th and 17th, was a great success. It was a success in the face of one of the greatest financial depressions the country has known and in spite of the fact that the attendance was not as large as usual. The clinics were well arranged, well attended, instructive and interesting. The papers were of a high order and the spirit of the membership was most cordial and pleasant.

The President's address contains an excellent suggestion to which I wish particularly to call attention. In agreement with a recommendation of the secretary-treasurer he recommends the appointment of a committee on membership. I wish most heartily to commend this recommendation with the hope that the committee will be well selected and most active.

The Tri-State Medical Association means far more than a mere medical meeting. It is an association of the three States in the Union which are most closely tied by blood, sentiment and friendship. It means an association of the three States which have given more constructive thought to the Union than have any other three States. It means the association of three States upon which the future medical development of the South largely depends. It means an exchange of ideas, a combination of medical suggestion and power for the laying of medical plans and for fighting medical evil among three States who speak the same language. It means a

renewal of social contacts among people who have the same ideas of integrity, independence and manners. It means an association large enough to be of influence and small enough to be cohesive. It means that every physician of good standing in the three States should become a member of this outstanding organization.

Our next meeting will be held in Raleigh, possibly the most central point that could be selected for the membership. It is not too early to hope that every member will make a definite attempt to foregather and to participate and it is not too early to begin to talk to our friends who are not members, to show them the advantage of membership and try to lay a definite program toward the end of doubling our membership. The expense of membership in the Tri-State Medical Association in comparison to its benefits is nil. Surely any physician of good standing can afford five dollars to become a member of an association the value of which to the physician cannot be estimated in dollars and cents. In the few days of the meeting one not only gets a trip away from the cares and routine of practice, but broadens one's experience by seeing well conducted clinics and by hearing well selected papers and also gets the inspiration of professional fellowship and friendship which helps to inspire him throughout the year.

Let us use every endeavor to make the Raleigh meeting one of which each State and each individual member can be justly proud.



SOUTHERN MEDICINE AND SURGERY

OFFICIAL ORGAN OF { Tri-State Medical Association of the Carolinas and Virginia
 Medical Society of the State of North Carolina
 JAMES M. NORTHINGTON, M.D., *Editor*

Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
CHILDREN'S CLINIC GROUP	Black Mountain, N. C.	} Pediatrics
CHILDREN'S HOSPITAL GROUP	Charlotte, N. C.	
W. M. ROBESY, D.D.S.	Charlotte, N. C.	Dentistry
EYE, EAR & THROAT HOSPITAL GROUP	Charlotte, N. C.	Eye, Ear, Nose and Throat
THE BARRET LABORATORIES	Charlotte, N. C.	Laboratories
O. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	} Charlotte, N. C.	Urology
ROBERT W. MCKAY, M. D.		
J. D. MACRAE, JR., M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Therapeutics
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology
VARIOUS AUTHORS		Historic Medicine
JAMES ADAMS HAYNE, M.D.	Columbia, S. C.	Public Health

Offerings for the pages of this Journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This Journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

THE DOCTOR—HIS CRITICS—HIS HINDERING HELPERS

WHO IS RESPONSIBLE FOR INABILITY TO PAY FOR MEDICAL SERVICE?

One can advise comfortably from a safe port.—SCHILLER—*William Tell* I, 1, 146.

And why beholdest thou the mote that is in thy brother's eye, but consider not the beam that is in thine own eye?—*Matthew* VII, 3, 1.

That the health care given by doctors to their patients is imperfect, all will admit; that this care should and can be improved, no one in his senses will deny. This is only saying that doctors share the imperfections of the rest of humankind; a mere truism it is, rather foolish to mention but for the astonishing fact that those of pretty nearly every other profession, trade, or vocation, have taken it upon themselves to tell us what a sorry lot we are, despite the patent fact that there's not another considerable group which does its job as well as doctors do theirs.

The foregoing sentence, as first written, contained "in entire disregard of" instead of the word "despite." The latter construction was chosen because, on reflection, it at once appeared very likely that their own shortcomings were regarded, and the assault on doctors started as a distraction. It is a well known custom of kings, when they feel their thrones tottering, to start a war to distract the attention of the people from their sufferings at the hands of Their Majesties.

It is stated as a fact that the cost of good medical services for the person of moderate means is unduly high.¹ That depends on what one means by *good* and what one means by *unduly*. Some 25 years ago some individual, one of the multitude who observe casually and talk loosely, remarked that only the richest and poorest in the U.S. could obtain good medical care, and human parrots have been repeating it ever since. Bluntly, it is not true. In the ordinary acceptance of the terms by ordinary mortals, we say that *good*

medical services are more readily procurable in this State and section by a man of ordinary means, than is any other necessity of life.

The question is asked, "Why were there 100,000 cases of smallpox in the U. S. in 1921, when that is a preventable disease?" Not because doctors are ignorant or apathetic, as is implied, but, because the people of the U. S. will not follow doctors' advice as individuals, nor as voters put proper vaccination laws on the statute books. Edward Jenner published his proof of the efficacy and harmlessness of vaccination in 1798: within 10 years the Kingdom of Bavaria had a compulsory vaccination law in operation; while even today, though Jenner was an Englishman, no English-speaking people has such a law for its whole population!

We are told that decreased efficiency due to disease causes a loss of two billions of dollars annually! Now isn't that just like a statistician? There's a good deal in this same book on the prevalence of hookworm disease in the South. Despite the hookworm and our innate laziness we grew and manufactured so much cotton last year as to bankrupt us. If we had got rid of the hookworm, and not a day had been lost from field or factory because of sickness, as anybody but a statistician can plainly see, we would be far deeper in the hole than we are. We have more products of every kind than we can sell profitably; to whom could we sell profitably this extra two billions' worth which would have been produced but for sickness?

There's a good deal said about the lack of facilities for coöperation open to the individual practitioner. This is mostly myth. Any man who has ever done general practice on his own knows that there is no difficulty in obtaining help from neighboring doctors, or in arranging for the use of special apparatus, inside or outside hospitals, as his patient's needs develop. And, while it is true that excessive fees are charged in far too many instances, that is a moral, not an economic, problem, since such fees are charged the rich. Any respectable general practitioner in this section of the country can command the services of any consultant within a hundred miles at no cost to the patient, if the doctor in charge says the patient is unable to pay;

and this includes treatment, surgical or otherwise. It is pertinent to remark, too, that many current reports of charges made are entirely untrue, and in many other instances charging is all; the bills are never paid.

We disagree with the idea that the midwife, like the biblical witch, should not be suffered to live. There are not enough doctors in the U. S. to attend every case of confinement, and there are more doctors than can be supported decently under our present system of concentration of wealth in the hands of the few—and they the least prolific. Instruction and kind dealing, rather than condemnation and harshness, for the midwife, is the part of wisdom for all concerned, particularly for the poor woman whose only help will be this usually comforting, cleanly, helpful, and by no means foolish, soul.

The book to which we are making repeated references suggests that the failure of doctors to charge for preventive work is important among the reasons why doctors have insufficient incomes. This is certainly valid. Charlotte doctors have been asked to examine without charge girls who wanted to use swimming pools, girls whose parents were all fully able to pay, and many of them able to have bought, by the dozen, the doctors whose services they were filching.

It is said that general practitioners are "backward" in preventing certain diseases; that the prevention of tuberculosis, cancer and mental ill health is largely in their hands; that to prevent hookworm disease patients should be persuaded to wear shoes; that education prophylaxis by family physicians should be efficacious against syphilis and gonorrhea. Undoubtedly some cases of tuberculosis can be prevented by the exercise of more care on the part of doctors; as to cancer and mental ill health it is wholly problematical. Most patients with hookworms are in homes where it is with great difficulty that shoes are provided for the winter, and weather mild enough to permit of going barefoot is hailed with shouts of joy on the part of children and a heavy sigh of relief from the hard-pressed head of the house. Those of us who saw how meager were the results of education prophylaxis, even when backed up by the strong feature of compulsion afforded by the military law, can work up little enthusiasm

for condemning the private practitioner for not accomplishing more, in the prevention of gonorrhea and syphilis.

It is said that it is a fundamental weakness of the private practice of medicine that the pecuniary interest of physicians is in the sickness, rather than in the health, of their patients. All of us have heard this over and over, and very likely accepted the implication that this is a *peculiarity* of the profession of medicine, but is it true? Not at all. Nathaniel Hawthorne chose his life work after the reflection: "I will not be a minister to live by men's sins, a lawyer to live by their quarrels, nor a doctor to live by their diseases." Clothiers live by selling clothes, lumbermen by selling lumber and bankers by lending money. Is it assumed that the clothier has destructive chemicals incorporated in the suits he sells, that the lumberman sets fires, or that the banker arranges that his borrower shall lose the borrowed money—in order that each shall do a larger volume of business?

An entirely unjustifiable robbery of private practitioners is provision of professional care for ex-service men, in illnesses having no service origin; and it is by no means improbable that this provision will be extended to cover members of these men's families. Does a benevolent government give homes, automobiles, legal service, hotel rooms, railroad fares, clothes and groceries to all ex-service men, regardless of ability to pay? If not, it is wrong to discriminate against the doctor by treating patients for nothing who would, otherwise, come to him and pay him for his services.

We are a nation of joiners. The vast majority dearly delights in being called brother, or Tom, Dick, or Harry, slapped on the back, given mystical handshakes and wearing buttons. Investigations have a great charm for us, too. Between Mr. Hoover's commissioners, those appointed by Congress, and those appointed here and there to investigate doctors' affairs, it will soon be a mark of distinction not to have been a member of either. It is said that there was once an exclusive club of theatrical folks, to which the only requirement for admission was that the proposed member had never been married to either Lillian Russell or Nat Goodwin.

Whoever starts out to talk about some

folks not being able to pay for doctors' services, concentrates on the word *doctor*. Clearly the subject is *inability to pay*. Why any inability to pay in a country in which there is \$3,000 worth for every man, woman and child? Note the word *for*. They haven't got it. Mr. Ford, Mr. Morgan, Mr. Schwab and the other 508 who in 1929 paid taxes on yearly incomes of more than a million dollars have it *for* them. Will they ever get it? Not unless there comes either a miracle of fair making and administering the laws, or a revolution.

Frequently we hear men spoken of as 100-thousand-dollar-a-year men, 500-thousand-dollar-a-year men, million-dollar-a-year men; and with the utmost *sang froid*. The sooner all of us come to realize that nobody is *worth* a hundred thousand dollars a year to himself, or to society, the better it will be for everybody, including these high-priced folks, themselves.

When the fruits of labor, mental and physical, are shared by the many according to desert, instead of monopolized by the few according to their own selfish wills, every man will be able to choose his own doctor and pay him his reasonable charges. Why continually create poverty and then contribute haphazardly to its relief? Why not apply prevention here? Wholesome food, comfortable surroundings, a contented mind, ability to pay one's own debts and make modest provision against emergencies and the infirmities of age, thus retaining one's self-respect, are powerful factors in maintaining bodily, mental and social health; potent preventives of such scourges as pellagra, tuberculosis, and pneumonia—to say nothing of that deadly scourge, *bloody revolution*.

If the industrialists—and their hired hands, the politicians—had done their job half as well, or with half the heart, that the doctors have done theirs, there would be no want in the land, either of doctors' services, food, clothing or shelter. While industrial and economic problems cry out for solution, industrialists, waxed fat on extortion and the favoritism of laws passed and administered by their hired hands, wave pudgy fingers in the direction of the poverty stricken sick, and say to doctors, "Sickness is your problem, doctors should not allow folks to be

sick, I'll tell you where you're wrong and set you right"; and, this even in the cases of patients who have pellagra, or tuberculosis from lack of food, or pneumonia from lack of clothing, fuel or shelter!

The beam is in the eye of industrialism, as represented by the whole system under whose domination we have the marvelous spectacle of such an excess of every necessity of life as to make it sell for less than the cost of production; and, at the same time, depression, hunger, cold, bankruptcy and suicide on a scale never known before in this country.

Doctors admit their imperfections and strive constantly to overcome them. We buy more books and magazines on professional matters than any other group. We gather in our County medical society twice each month to increase our usefulness to our patients. We attend District meetings, State meetings, Sectional meetings and National meetings—several times a year.

We do not deny that there remains a *mote* in our eye; but we want no meddling with it by one whose sight is dulled by a *beam* in his own, and, moreover, is eagerly seeking to distract attention from himself, as the guilty party.

"How wilt thou say to thy brother, Let me pull out the mote out of thine eye; and behold, a beam is in thine own eye?"

Thou hypocrite, first cast out the beam out of thine own eye; and then shalt thou see clearly to cast out the mote out of thy brother's eye."

1. *American Medicine and The People's Health*, by HARRY H. MOORE. D. Appleton & Co.

THE TRI-STATE AND ITS RECENT MEETING

Our meeting in February was marked by the spirit which has animated the association since its organization. To our gratification the inability on the part of doctors to obtain our fair share of the goods of this, the wealthiest of countries, was reflected only in a very small falling-off in the number in attendance. One of our guests expressed some astonishment at the attendance and said that the attendance on his section clinic during some certain meeting of railway surgeons held in the latter part of 1930 fell from a roomful a year before down to four, "and"

he concluded, "I went around to see where the men were, and the other fellows didn't have any more than I did; they were just not there."

President Lyles early noted the urgency of the need for special effort and so brought his administration through to successful conclusion. Dr. Wm. F. Dewry, a member for more than 20 years, said in making a nomination, the meeting was the kind he liked, one in which enthusiasm prevailed from beginning to end.

The President's Address sounds timely warning against tendencies toward evil to Medicine and medical men, and urges concerted, energetic action. His earnest recommendation is that the truth about Medicine, what Medicine has done and is doing for the Public, what the Public has a right to demand of Medicine, and what Medicine has a right to demand of the Public—that all this be talked about by doctors on platforms before lay audiences and written about by doctors in lay publications. This is being done to some extent. It should be done to a far greater extent. The enemies of the present system of Medicine are numerous, powerful, active, resourceful and, many of them, well financed and unscrupulous. If we have the will and the wit to protect ourselves and our cause, we can easily avert the evils with which we are threatened; if we have not, it is perhaps better for all concerned that our system be supplanted by one endowed with powers of self-preservation and propagation.

The recommendation that a Committee on Medical Economics be appointed meets with hearty approval here, and with the hope that this committee will make specific recommendations and do specific things, and not confine itself to vague generalization. The appointment of a large Membership Committee will be the means of keeping it in the minds of all the members that every organization must be recruited, and when this is done, is there a one who will be willing to admit that he has not enough influence to bring in a member? The editor assumes that President Tucker will appoint these committees, and that the members will be thinking over the suggestion as to providing for a president-elect and come to Raleigh prepared to make this change.

Our new President takes up the duties of office with enthusiasm and greets the member-

ship with a vigorous message in this issue. This spirit assures the carrying on of the affairs of the association in the manner most to be approved, and the stimulation of the membership to the making of each succeeding meeting better and better.

The secretary-editor takes this occasion to express appreciation to the membership for their consideration in deeming his efforts worthy of a rising vote, and to again remind each member that this is *our* association and *our* journal, and that each member should make his views known as to the conduct of the one and the other.

PRESIDENT TUCKER

The Tri-State Medical Association chose its new president wisely. When the sea is calm and the wind favorable a ship can make a prosperous voyage under most any sort of captain. In times of storm and adverse winds the one in command must be able, resourceful and energetic. That's the kind of man we've got, and he gets to work on our problems right away. Note the spirit of the first of his monthly messages to be carried in the journal.

He is not disposed to deny existing conditions. Neither is he disposed to wring his hands and wait for something to turn up. Rather, being the man of sense he is, he takes accurate inventory of the situation, admits its many difficulties, decides how they may best be met and overcome and, with a stout heart, sets about doing something about it. Let each member follow his leadership wholeheartedly, do the part assigned him from time to time as President Tucker directs his campaign for the betterment of the state of Medicine and of doctors in the Carolinas and Virginia, and improvement on a magnificent scale will inevitably result.

Let's keep step with him, each member vying with all others in zeal for enlarging the association's usefulness, prestige and power.

WHAT AID WILL THE ELECTROCARDIOGRAPH RENDER?

The value of the electrocardiograph as an aid to making a diagnosis, giving a prognosis, or rendering the proper treatment to the cardiac patient, depends a great deal upon the facts that have been obtained by the history and physical examination. If the physician *knows* that a pulse of 120, regular, and not

influenced by exercise, in an elderly person, is probably due to auricular flutter, then the electrocardiogram may only prove his diagnosis to be correct; but if the rate when counted has dropped to 60, is regular, and the patient has no symptom other than fatigue, then the tracing, if made as a matter of routine, will probably be very helpful in disclosing an auricular flutter with a 4-to-1 heart-block. The value of any instrument of precision, however, must be based upon what it can reveal that cannot be ascertained by ordinary, simple bedside methods.

It seems important that the physician have clearly in his mind the *kind* of information that may be obtained from the electrocardiogram. The value of this information will depend upon what he already knows about the cardiovascular system of his patient.

The electrocardiogram, only, will reveal the definite signs of disease of the cardiac muscle. The exercise functional test will indicate the ability of the heart to carry on a proper circulation, but will not tell you whether disease of the muscle is present or not. It will demonstrate clearly the mechanism of any irregularity. An auricular fibrillation with a ventricular rate of 56 is clearly shown not to be due to extrasystoles or a varying 2-to-1 or 3-to-1 heart-block. Most of the irregularities may be properly diagnosed by ordinary methods or with the polygraph. It will record the auriculo-ventricular conduction time. If found to be slow it indicates early heart-block and assures you that digitalis is contraindicated. Slow conduction time cannot be determined by ordinary methods. The accurate information obtained from the tracing about the various types of block, and the condition of the heart muscle associated with the block, is one of the most helpful uses of the electrocardiograph. Such a serious condition as bundle branch block cannot be accurately diagnosed in any other way. The early signs and symptoms in this condition are often rather insignificant, yet most such patients die within three years after the diagnosis is made. In questionable cases of mitral valve disease the electrocardiogram gives a definite sign of auricular hypertrophy, if present, and will indicate whether it is the right or left ventricle which is enlarged or overworking. It is helpful in referred cases to determine whether the heart is digitalized or not (digitalis *T* wave)



long before they have symptoms of over-action of the drug. Given a man of 50 years, rather stout, and complaining of severe pain in the epigastrium, the question arises whether he has acute pancreatitis, perforation, angina, or coronary occlusion. The electrocardiogram, by showing the coronary *T* wave, as described by Pardee, has many times prevented unnecessary operations, and in patients who were not good surgical subjects.

Now that the electrocardiograph has taught the internist to diagnose most of the cardiac irregularities without its aid, the most useful field, probably, of this instrument, is in giving a rather accurate *prognosis*. Hypertensive cardio-vascular disease is by far the most frequent form that we encounter in this section of the country. In this type of case the clinician expects the electrocardiogram to show left ventricular predominance (left axis deviation). It usually does. However, the value of the tracing is that in a large number of these cases there will be additional information given such as inverted *T* waves in lead one, peak notching or low voltage of the *QRS* group, possible unsuspected coronary *T* waves, or bundle branch block. The prognosis then is much more grave and the future treatment of this patient must be more rigid. Here then is a real value of an instrument that is now portable, easier to operate and gives more information than the polygraph, and throws considerable light on many obscure cardiac cases.

—*W. B. Kinlaw,*
Rocky Mount, N. C.

THE CHARITY PRACTICE OF THE DR. MUNCHAUSENS

From time to time there appear in the newspapers statements that Dr. This, or Dr. That, has done so much charity work in the past year, which would have cost so much at the ordinary rate. Generally this work is reported as having been done under the auspices of some club, or other more or less benevolent organization.

It's a pity that such worthy endeavors should be tinted with the odor of professional advertising; that it should be made to appear that certain individual doctors, or doctors doing some certain kind of work, are exclusively or even exceptionally, deserving of credit for kindheartedness toward the sick and suffering poor.

Charles A. Dana is said to be the author of the statement: "When a dog bites a man, that's not news; but when a man bites a dog that is news." A doctor showing willingness to work without pay, is not news; it's a daily, hourly commonplace; so why should an individual doctor be featured? If every deed of charity done by doctors were written up the list would be longer than that of sales of lands for taxes, and that's the longest thing we know of.

There's something more about this kind of advertising worthy of thought. Not uncommonly the figures represent an enormous valuation set on his services by the doctor himself. In a recent newspaper report it was stated that a certain doctor had treated a certain number of patients in the past year, and that, at the ordinary rates, this represented nearly \$10,000. A bit of ciphering showed the figures to be based on a per patient charge of about 750 dollars, and the total was quite sufficient to have employed a doctor entirely competent to take care of such patients, for a year, devoting his whole time to these patients.

Such egotistic nonsense as this plays directly into the hands of all the enemies of Medicine, and is a source of embarrassment to those energetic in our cause. If there's a doctor anywhere who collects an average of 750 dollars from his private patients, we would certainly enjoy an opportunity to get a look at him—and we'd like to help put him in jail for grand larceny, for nobody's services are worth it.

Doctors can keep such advertising, certainly such untruthful advertising, of themselves from appearing in the newspapers *if they really want to*; and those who are uninfluenced by becomingness, or persuasion, should be compelled.

Who is it that is said to sound a trumpet before him when he does his alms? And that reference is only to almsdoing not magnified even one power!

Sam was charged with theft and his lawyer decided to put him on the witness stand.

"Sam, if you tell a lie you know what will happen, I suppose?" queried the judge.

"Yas, suh," replied Sam. "I goes to Hell and burns for a long time."

"Quite right," declared the judge. "And you know what will happen if you tell the truth?"

"Yes, suh," said Sam. "We lose de case!"—*Cor-nucopia*.

NEWS ITEMS

(Dr. Jas. K. Hall, Richmond and Dr. L. B. McBrayer, Southern Pines contribute regularly)

Early in February cards were sent out to the doctors of Charlotte and vicinity as follows:

The Board of Managers of the GOOD SAMARITAN HOSPITAL [for Negroes] invites you to the opening of their new building, Tuesday, February 17th, 405 West Hill Street. From three to six.

Dr. R. M. Buie who has been Guilford County's health officer for the past six years was unanimously re-elected.

Drs. A. B. Byerly and J. W. Rodwell have been chosen to serve with Chairman Harmon McMahan of the Board of County Commissioners, Mayor J. T. Baity of Mocksville and County Superintendent W. F. Robinson, these five constituting the Davie County Board of Health.

Dr. A. C. Parker, 84, died January 27th at his home "Lone Aspen" after a lingering illness. He was a native of Bedford, Va.

Dr. W. N. Tate of Mebane, 85, died January 26th. He had been in ill health for some time.

Dr. H. H. Briggs of Asheville, widely known eye, ear, nose and throat specialist, 60 years of age, died February 6th.

Dr. Hardy Johnson of Reidsville, 76, died February 5th. Paralysis caused his death.

Dr. Edward Hollingsworth of Mount Airy died February 11th.

Lieut. Commander Lewis Hicks Williams, surgeon of the Chelsea Naval Hospital at Boston, Mass., died at Goldsboro Hospital, February 18th, age 41. He had an attack of influenza.

Dr. J. C. Montgomery of Charlotte, age 62, of a heart attack, February 18th.

Dr. J. R. Gordon of Jamestown, 73, died February 20th of a stroke of paralysis.

Dr. Wm. Edward Fitch originally of Burlington, N. C., more recently of Bedford Springs, Penna., has accepted a position at French Lick Springs, Indiana.

"Hey, your lights are out."

"I know it, I just put some of the prohibition alcohol in the radiator and they went blind."—*Santa Fe Magazine*.

Our Medical Schools

UNIVERSITY OF VIRGINIA

At the meeting of the University of Virginia Medical Society on January 26th, Dr. Oscar Swineford read a paper on Pathological Physiology of Clinical Allergy, Dr. Calvin T. Burton on Avertin Anesthesia.

On February 9th, Dr. B. P. Babkin, Research Professor of Physiology at McGill University, addressed the faculty and students of the School of Medicine on Nervous and Humoral Control of Gastric Secretion.

On February 16th, Dr. John R. Caulk, Professor of Urological Surgery at Washington University, St. Louis, spoke before the University of Virginia Medical Society on the subject of Stone in the Bladder.

Dean J. C. Flippin attended the meeting of the Council on Medical Education and Hospitals in Chicago, February 16th to 18th.

Dean J. C. Flippin and Dr. L. T. Royster attended the White House Conference on Child Health and Protection, February 19th to 21st.

SOUTH CAROLINA

Recently Dr. Charles Wardell Stiles, National Institute of Health, Washington, visited the College and made an inspection of the students for evidences of hookworm disease as a part of a tour designed to draw comparisons of the conditions existing now and in 1903, when he made a similar inspection of this student body and other groups of people in the South. Compared to his observations in 1903 he found very little evidence of hookworm disease in the present classes.

Dr. Wm. DeB. MacNider, University of North Carolina, addressed the class in pharmacology on the occasion of his visit here to speak before the Medical Society of South Carolina on the subject of The Ability of the Kidney to Regenerate.

The new two-story building planned to house the Department of Pathology and the Library has been completed and will be equipped to allow these departments to move from the main building at the end of the present session. The quarters now occupied by these departments will be then available for the much needed expansion of the divisions of anatomy, clinical pathology and bacteriology particularly.

MEDICAL COLLEGE OF VIRGINIA

Dr. Louis Hamman, associate professor of medicine at Johns Hopkins University, as a visitor and guest of the Tri-State Medical Association, convening in Richmond, February 16th and 17th, gave a clinic at the Memorial Hospital of the Medical College of Virginia. This was attended not only by members of the association but by students of the junior and senior classes of the college's school of medicine. On February 17th Dr. Hamman made ward rounds from nine to eleven with one of the sections in medicine.

Thirty-three hundred ninety-four visits by patients to the outpatient clinic at the Medical College of Virginia for January sets a new record in volume of service. The largest previous January was in 1930 when 3142 visits were made for treatment.

Dr. William P. Gilmer, graduate of the school of medicine, class of 1916, Medical College of Virginia, and Mrs. Gilmer were recent visitors at the college. Dr. Gilmer is practicing at Clifton Forge, Va.

Dr. S. A. Mitchell, director of the Leander McCormick Observatory, University of Virginia, will give the second Stuart McGuire Lecture at the College on Wednesday, March 25th, 1931. His subject will be Eclipse Hunting in the South Seas. The Stuart McGuire Lecture was established a year ago in recognition of the services of Dr. Stuart McGuire to the college, to medical education, and to surgery.

MEDICAL SOCIETY OF VIRGINIA

(Continued from Page 210)

Article X

OF AMENDING THE CONSTITUTION

Every proposition for amending this constitution shall, on being seconded, be handed up in writing to the chair. It shall then be audibly read by the recording secretary, after which the society shall decide whether it pass to a second reading. If they resolve in the affirmative, it shall be placed on file to be read at the next regular meeting, when the question shall be taken on its third reading, and if so determined, the proposition shall again be read and finally decided at the third meeting; but shall not even then be adopted, unless with the concurrence of three-fourths of the members present.

BY-LAWS OF THE MEDICAL SOCIETY OF VIRGINIA

Section 1. Two days previous to each stated meeting, the recording secretary shall give notice thereof in writing, to each member residing in Richmond and Manchester.

2. As soon as the meeting is formed, the president shall instruct the recording secretary to read over the minutes of that immediately preceding.

3. Reports of committees shall be called for.

4. *When members resident in the country present essays to the society, they shall be allowed precedence of members in town, in the reading thereof; and essays or other communication from gentlemen who are not members shall have precedence of both.*

5. In discussing questions before the society, no member shall speak more than twice on the same subject, unless by permission from the presiding officer.

6. *After the society is organized, no member shall leave the hall without the permission of the presiding officer.*

7. *The hour of meeting for the society shall be early candle light.*

8. The annual contribution of each member shall be five dollars.

9. The following regulations shall be observed in the use of the library.

(a) The librarian shall keep a book in ledger form, wherein he shall open an account with each member of the society; the debit side showing the title of each book given out, opposite to which the member receiving it, or his accredited agent, will sign his name, the credit side showing the title of each book returned.

(b) It shall be lawful for any member to retain a folio one month, a quarto three weeks, and an octavo or smaller volume a fortnight, when they shall be returned to the library. But if no application shall have been made for the same while out, the member first using them may again have them for the same length of time.

(c) If any member shall injure or deface, or omit to return any book, he shall be liable to the society for another copy of equal quality, or its alternate value in money, and should the book be so injured, defaced, or omitted to be returned, belong to a work of more than one volume, he shall be liable to the society for the whole work, or its alternate value; and in either case, on making the compensation thus required to the society, he shall be entitled to the work injured, defaced, or omitted to be carried back to the library.

(d) The librarian shall also keep a correct list of the books in the library, either prefixed to the ledger, or in a separate book. A copy of this list, made out in a fair hand, with any appropriate remarks on the state and condition of the library, it shall be the duty of the librarian to hand in to the society at each stated meeting in November.

10. Every proposition for the enactment or amendment of a by-law shall be specifically set forth in writing at a stated meeting; and if seconded, shall lie over for one month, after which, the question of its adoption may be decided by a majority of the members present.

BOOK REVIEWS

MODERN METHODS OF TREATMENT, by LOGAN CLENDENING, M.D., Professor of Clinical Medicine, Lecturer on Therapeutics, Medical Dept. of the Univ. of Kansas; Attending Physician, Kansas City General Hospital; Physician to St. Luke's Hospital, Kansas City, Mo. With Chapters on Special Subjects by H. C. Andersson, M.D.; J. B. Cowherd, M.D.; H. P. Kuhn, M.D.; Carl O. Rickter, M.G.; F. C. Neff, M.D.; E. H. Skinner, M.D.; and E. R. DeWeese, M.D. 4th edition. *C. V. Mosby Co.*, St. Louis, 1931. \$10.00.

A number of years ago it was said that there were two classes of lawyers in the U. S.: (1) Joseph Choate, and (2) all the others. With as much truth it may be said that there are now two classes of doctors: (1) Logan Clendening—along with like-minded Wingate Johnson of Winston-Salem, N. C., and J. H. Hiden of Pungoteague, Va.—and (2) all the others.

A good friend and former fellow faculty member told the reviewer five years ago, "You're backing a dead horse in espousing the cause of the family doctor; he's an anachronism." That opinion was as wrong then as it is wrong now.

The family doctor has been greatly handicapped by being discouraged from attempting to do anything which might be referred. Clendening encourages family doctors to be doctors rather than distributing bureaus. He aims to "describe each procedure so clearly and minutely that a person who has never seen it performed could do it from the description." Also, in making a new edition he has not been governed by a desire to show that he has heard of every method of treatment which has been tried and found wanting; rather he has described those which have been found valuable.

Strength to his arm! The more Clendening the less will be the scurrings to and fro in search of solutions of the problem: What shall we [doctors] eat, where shall we sleep and wherewithal shall we be clothed?

LOVETT'S LATERAL CURVATURE OF THE SPINE AND ROUND SHOULDERS, revised and edited by FRANK R. OBER, M.D., Assistant Professor of Orthopedic Surgery, Harvard University; Member American Orthopedic Association, and A. H. BREWSTER, M.D., Instructor of Orthopedic Surgery,

Harvard University; Member American Orthopedic Association. 5th edition, 201 illustration. *P. Blakiston's Son & Co.*, Philadelphia. \$3.50.

The anatomy and physiology of the vertebral column are discussed in an unusual manner and one best calculated to explain the mode of production of deformity in this part and to clearly teach how such deformity should be managed. The chapter on examination and record is especially comprehensive. A simple, cheap and sufficiently accurate method of recording by tracing is described as generally preferable to the expensive and complicated Schulthess apparatus. Treatment is given clearly and in great detail, the text being supplemented with ample illustrations.

TEXTBOOK OF HUMAN EMBRYOLOGY, by CLEVELAND SYLVESTER SIMKINS, Ph.D., Associate Professor of Anatomy, University of Tennessee Medical School, Memphis, Tennessee. 263 illustrations, some in colors. *F. A. Davis Company*, Philadelphia, 1931. \$4.50.

The fundamental sciences are too much neglected by doctors, most likely because of lack of proper appreciation of their practical value. The mode of development of human body should be a subject of absorbing interest to every human being, most especially to doctors. To cite one illustration: How can a doctor get a grasp of diverticulitis without knowing how Meckel's diverticulum is developed? The text deals with physiologic as well as an anatomic development. That function is more permanent than form can be read through all its pages. All of us would do well to study and restudy embryology and here is an excellent text suitable for instruction of doctor, nurse, or interested layman.

A CENTURY WITH NORFOLK NAVAL HOSPITAL, 1830-1930: A Story of the Oldest Naval Hospital, The Medical Department of the Navy, and the Progress of Medicine Through the Past One Hundred Years, by RICHMOND C. HOLCOMB, M.D., F.A.C.S., Captain, Medical Corps, U. S. N. 42 illustrations. *Printcraft Publishing Co.*, Portsmouth, Va., 1930. \$6.50.

The book begins with the purchase (with tobacco) of the land on which the hospital is built and its first settlement. Quaintly worded and spelled deeds have been sought out



Malonic ester stills in which intermediates used in the manufacture of Amytal are made — Laboratories of Eli Lilly and Company, Indianapolis, Indiana.

===== [MANUFACTURERS OF] =====

ILETIN (INSULIN, LILLY) LIVER EXTRACT No. 343 AMYTAL
PARA-THOR-MONE PULVULES SODIUM AMYTAL
EPHEDRINE PREPARATIONS

and included. The development of Norfolk into a flourishing town, its burnings and its rebuildings, are recounted. Old Fort Nelson's history is given, from the reasons for its establishment to its utter disappearance. All this is but a background for a recital of the formation and subsequent history of the Medical Corps of the U. S. Navy, the building of the hospital, its early days, its functioning during epidemics (notably of yellow fever) and wars, the changes instituted in keeping step with medical advances, the *status praesens*, even the burying ground—everything connected with the hospital is told in a way to instruct and entertain readers who are interested in a valuable chapter in the history of our country. The illustrations are chosen with discrimination and admirably reproduced.

THE AMERICAN JOURNAL OF CANCER, Official Publication of The American Association for Cancer Research and The American Society for the Control of Cancer. Quarterly. \$5.00 per annum.

This Journal has just made its first appearance. It will be not merely a continuation of the former *Journal of Cancer Research*, but will represent a far wider field. It will continue to present original papers on experimental work and will add clinical contributions from America and abroad.

A complete abstract service covering the subject of cancer in all its phases will be maintained.

It is planned to make this abstract service a comprehensive survey of the world's literature in our own country, in Great Britain and the continent, the clinics and schools of South America, Australia, South Africa, and the medical centers of China, Japan and India. More than 500 journals will be reviewed for this service, as well as the reports of various cancer commissions and societies.

Editorial comment on the abstracted material will be offered as occasion arises, and writers whose work is reviewed will be given an opportunity of replying to any criticism or questions that are raised in connection with their work, so that the Journal will be truly representative of all schools.

Publication continues from the Institute of Cancer Research, Columbia University, quarterly at first, with the possibility of more fre-

quent publication as the amount of material justifies.

Its format attractive and practical. Clear readable type, good paper, well proportioned pages, and beautiful illustrations in color and black and white will make it a model of periodical manufacturing.

The first number is a handsome, well illustrated book of more than 500 pages, which treats of the surgical and medical care, the experimental study, the influence of extracts of suprarenal cortex, management of the swollen arm in carcinoma of the breast, the coincidence of primary breast and uterine cancer, and such like live aspects of the cancer problem.

We welcome this journal as an evidence of a determination to carry on the fight against cancer with more determination, with heavier forces, and under a more united command.

IT COSTS LESS TO TRAVEL BY TRAIN

The Safest, Most Economical, Most Reliable Way
TWO-DAY LIMIT round trip tickets on sale daily at ONE and ONE-THIRD (1 1-3) FARES for the round trip between all points within a radius of 150 miles.

SIX-DAY LIMIT round trip tickets on sale daily at ONE and ONE-HALF (1 1/2) FARES for the round trip between all points within a radius of 150 miles.

FARES FROM CHARLOTTE NORTH CAROLINA

To	One Way Fare	Round Trip "Two-Day Limit"	Round Trip "Six-Day Limit"
ASHEVILLE, N. C.	\$5.21	\$6.95	\$7.85
BARBER, N. C.	1.56	2.10	2.35
BLACKSBURG, S. C.	1.67	2.25	2.55
CHESTER, S. C.	1.60	2.15	2.40
COLUMBIA, S. C.	3.90	5.20	5.85
CONCORD, N. C.	.77	1.05	1.20
DANVILLE, VA.	5.12	6.85	7.70
GASTONIA, N. C.	.78	1.05	1.20
GREENVILLE, S. C.	3.84	5.15	5.80
GREENSBORO, N. C.	3.38	4.55	5.10
HIGH POINT, N. C.	2.84	3.80	4.30
HICKORY, N. C.	2.74	3.70	4.15
MOORESVILLE, N. C.	1.02	1.40	1.55
RALEIGH, N. C.	6.26	8.00	9.00
ROCK HILL, S. C.	.90	1.20	1.35
SALISBURY, N. C.	1.59	2.15	2.40
SENECA, S. C.	5.22	7.00	7.85
SHELBY, N. C.	1.91	2.55	2.90
SPARTANBURG, S. C.	2.70	3.60	4.05
STATESVILLE, N. C.	1.59	2.15	2.40
WINSTON-S'L'M, N. C.	3.00	4.00	4.50

To all other stations within 150 miles from Charlotte, on the same basis.

Also 10-trip, 20-trip and 30-trip low fare tickets, between stations 200 miles apart, good 6 months.

ASK AGENTS FOR PARTICULARS
CITY TICKET OFFICE

308 West Trade St.

Phone Dial 2-3351

During Convalescence

from INFLUENZA from PNEUMONIA

When the temperature has returned to normal and the danger of immediate complications is past, your problem is to bring the patient "back to normalcy" as quickly and surely as possible.

Many of the ill effects of respiratory infection — anorexia, loss of weight, lowered resistance and inhibition of the immunity mechanism — may be overcome by administering a potent source of vitamine-B during convalescence.

In numerous scientific and official reports, Yeast Vitamine—Harris and Brewers' Yeast—Harris have been designated by impartial investigators

as vitamine-B preparations of extremely high potency, both as to the B₁ (F) and B₂ (G) components. In addition, the output is tested biologically in our laboratories by approved tests for vitamine B values.

As a further aid to convalescence, Yeast Bouillon Cubes—Harris supply notable amounts of vitamine-B in the form of an appetizing vegetable broth.

By virtue of their assured vitamine-B potency, the Harris Yeast preparations stimulate physiological appetite, increase body weight and promote general resistance during convalescence from influenza and pneumonia.



YEAST VITAMINE — HARRIS OR BREWERS' YEAST — HARRIS

The HARRIS LABORATORIES, Inc.

Tuckahoe, New York

Kindly send me the items checked in this coupon:

- ☐ Complimentary package of Yeast Vitamine—Harris (Tablets).
- ☐ Complimentary package of Yeast Bouillon Cubes (12 cubes).
- ☐ Test bottle of Brewers' Yeast—Harris. (85c enclosed)

M.D.

MEMBERS TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA

NON-RESIDENT

Andes, G. C.	Milburn, W. Va.
Angle, L. W.	Kansas City, Kan.
Barker, L. F. (Hon.)	Baltimore, Md.
Sharpe, William (Hon.)	New York City
Toy, C. R.	Milltown, N. J.
Woodward, S. B.	Dayton, Ohio

SOUTH CAROLINA

Abell, Robert E.	Chester
Adcock, D. F.	Columbia
Allison, J. R.	Columbia
Baker, A. E., sr. (Hon.)	Charleston
Baker, A. E., jr.	Charleston
Baker, B. R.	Charleston
Barksdale, I. S.	Greenville
Barron, W. R.	Columbia
Baxter, O. D.	Sumter
Beckman, J. C.	Charleston
Bell, F. A.	Georgetown
Black, H. R.	Spartanburg
Black, H. S.	Spartanburg
Black, S. O.	Spartanburg
Blackmon, W. R.	Rock Hill
Blackwell, W. G.	Parksville
Brockman, Thomas	Greer
Bunch, G. H.	Columbia
Burnside, Alfred F.	Columbia
Cannon, Joseph Henry	Charleston
Carpenter, E. W.	Greenville
Cathcart, R. S. (Hon.)	Charleston
Corbett, J. W.	Camden
Davis, T. McC.	Greenville
Durham, Frank M.	Columbia
Earle, C. B.	Greenville
Epps, C. B.	Sumter
Evatt, Clay	Greenville
Finklea, O. T.	Florence
Finney, Roy P.	Spartanburg
Fouche, James S.	Columbia
Furman, Davis (Hon.)	Greenville
Gross, H. A.	Bamberg
Guerry, LeGrand (Hon.)	Columbia
Harmon, S. E.	Columbia
Heinitsh, H. E., jr.	Spartanburg
Hill, R. D.	Pacolet
Hines, E. A.	Seneca
Horger, E. L.	Columbia
Houck, T. D.	Florence
Hughes, R. E. (Hon.)	Laurens

Jennings, Douglas	Bennettsville
Jervey, J. W., jr.	Greenville
Johnson, F. B.	Charleston
Jordan, Fletcher	Greenville
Kinney, P. M.	Bennettsville
Kollock, Chas. W. (Hon.)	Charleston
Lander, Frank M.	Williamston
Latimer, J. B.	Anderson
Littlejohn, T. R.	Sumter
Lyles, W. B. (Hon.)	Spartanburg
Mauldin, L. O.	Greenville
May, Charles R.	Bennettsville
Lynch, Kenneth M.	Charleston
McCants, C. S.	Winnsboro
McGill, Waldo Knox	Clover
McGowan, R. P.	Laurens
McIntosh, J. H. (Hon.)	Columbia
McLeod, F. H. (Hon.)	Florence
McLeod, James	Florence
Maguire, D. L.	Charleston
Metz, R. D.	Taylors
Mobley, C. A.	Orangeburg
Moore, A. T.	Columbia
Montgomery, B. McQ.	Marion
Mood, G. McF.	Charleston
Murray, J. G.	Greenville
Norton, J. A.	Conway
Pollitzer, R. M.	Greenville
Prioleau, W. H.	Charleston
Ravenel, James J.	Charleston
Rhame, J. Sumter	Charleston
Routh, Foster M.	Columbia
Seibels, Robert E.	Columbia
Shealy, Walter H.	Leesville
Sheridan, Wm. M.	Spartanburg
Sherard, S. Baskin	Gaffney
Smith, D. Herbert	Pauline
Smith, Hugh	Greenville
Smith, D. LeSesne	Spartanburg
Smith, Josiah E.	Charleston
Smith, Thos. H.	Bennettsville
Smith, W. Atmar	Charleston
Smith, Zach. G.	Marion
Smyser, John D.	Florence
Steadly, B. B.	Spartanburg
Stuart, Garden C.	Eastover
Stuckey, T. M.	Bamberg
Taylor, J. H.	Columbia
Thackston, L. P.	Orangeburg
Thomas, H. B.	Whitmire
Timmerman, W. P.	Batesburg
Walker, R. R.	Laurens
Wallace, Wm. R.	Chester
Ward, W. B.	Rock Hill

Weinberg, Milton	Sumter
White, J. W.	Greenville
Wicker, J. K.	Newberry
Wilkinson, Geo. R.	Greenville
Wilson, L. A.	Charleston
Wilson, I. R., jr.	Charleston
Wilson, Robert, jr. (Hon.)	Charleston
Wyatt, C. N.	Laurens
Wyman, Hugh E.	Columbia
Wyman, M. H.	Columbia
Young, J. R.	Anderson
Zimmerman, W. S.	Spartanburg

Elected Fellows at Richmond Meeting

Beeler, J. M.	Spartanburg
Gray, E. B.	Spartanburg
Hames, H. T.	Jonesville
Sanders, F. H.	Spartanburg
Whitten, B. O.	Clinton

VIRGINIA & DISTRICT OF COLUMBIA

Anderson, P. V.	Richmond
Andrews, C. J.	Norfolk
Ashworth, O. O.	Richmond
Barnett, T. Neill	Richmond
Baughman, Greer	Richmond
Bear, Joseph	Richmond
Blackwell, Karl S.	Richmond
Brent, M. S.	Petersburg
Brown, Alex G.	Richmond
Bryan, Robt. C. (Hon.)	Richmond
Burke, M. O.	Richmond
Buxton, J. T.	Newport News
Caravati, C. M.	Richmond
Clarkson, Wright	Petersburg
Cole, Dean B.	Richmond
Coleman, C. C.	Richmond
Corss, J. K.	Newport News
Courtney, R. H.	Richmond
Darden, O. B.	Richmond
Davis, John Wyatt	Lynchburg
Davis, T. Dewey	Richmond
DeJarnette, J. S.	Staunton
Denoon, H. L., jr.	Richmond
Dodson, A. I.	Richmond
Drewry, W. F.	Richmond
Eckles, B. F.	Galax
Ennett, N. Thomas	Richmond
Fowlkes, R. W.	Richmond
Gayle, R. F., jr.	Richmond
Gayle, E. M.	Portsmouth
Geisinger, J. F.	Richmond
Gill, E. G.	Roanoke
Graham, J. T.	Draper
Graham, W. R.	Draper

Gray, A. L.	Richmond
Hadley, E. E.	Washington, D. C.
Hall, J. K. (Hon.)	Richmond
Hamner, J. L.	Mannboro
Harrell, D. L.	Suffolk
Harris, Percy	Scottsville
Hazen, Chas. M.	Bon Air
Hedges, H. S.	Charlottesville
Henry, H. C.	Petersburg
Henson, J. W.	Richmond
Hidden, J. H.	Pungoteague
Hill, Emory	Richmond
Hodges, A. B.	Norfolk
Hodges, Fred M.	Richmond
Hodges, J. Allison (Hon.)	Richmond
Horsley, J. S.	Richmond
Horsley, J. S., jr.	Richmond
Hughes, T. E.	Richmond
Hughes, T. J.	Roanoke
Hunter, J. W., jr.	Norfolk
Hutcheson, J. M.	Richmond
Johns, F. S.	Richmond
Jones, Herbert	Petersburg
Jones, J. Bolling	Petersburg
Jones, Thos. D.	Richmond
Keyser, L. D.	Roanoke
King, J. C.	Radford
Kyle, B. H.	Lynchburg
Langston, Henry J.	Danville
LaRoque, G. P.	Richmond
Lehman, E. P.	University
Leigh, Southgate (Hon.)	Norfolk
Lewis, H. W.	Dumbarton
Lyerly, J. G.	Richmond
McGavock, E. P.	Richmond
McGuire, H. H.	Richmond
McGuire, Stuart (Hon.)	Richmond
Masters, Howard R.	Richmond
Mauck, H. Page	Richmond
Michaux, Stuart	Richmond
Miller, C. M.	Richmond
Moore, R. A.	Farmville
Nelson, Kinloch	Richmond
Nuckols, M. E.	Richmond
Payne, R. L.	Norfolk
Peple, W. L. (Hon.)	Richmond
Porter, W. B.	Richmond
Preston, Robt. S.	Richmond
Price, L. T.	Richmond
Rawls, J. E.	Suffolk
Righter, Frank P.	Richmond
Rinker, F. C.	Norfolk
Robertson, L. A.	Danville
Robins, Charles R.	Richmond
Royster, James H.	Richmond

Rucker, M. P.	Richmond	Tompkins, J. McC.	Richmond
Scott, E. G.	Lynchburg		
Sherrill, Z. V.	Marion		
Smith, James H.	Richmond		
Stirling, W. C.	Washington, D. C.		
Taliaferro, E. C. S.	Norfolk		
Townsend, M. L.	Washington, D. C.		
Talley, D. D., jr.	Richmond		
Terrell, E. H.	Richmond		
Thomas, C. W.	Martinsville		
Torrence, G. A.	Hot Springs		
Trout, H. H.	Roanoke		
Tucker, B. R.	Richmond		
Turman, A. E.	Richmond		
VanderHoof, Douglas	Richmond		
Vaughan, Warren T.	Richmond		
White, Chas. S.	Washington, D. C.		
White, Jos. A. (Hon.)	Richmond		
White, Wm. A. (Hon.)	Washington, D. C.		
Williams, Carrington	Richmond		
Williams, J. P.	Richmond		
Wilson, Franklin D.	Norfolk		
Woolling, R. H.	Pulaski		
Wright, R. H.	Richmond		

Elected Fellows at Richmond Meeting

Alexander, S. A.	Washington	Allan, William	Charlotte
Anderson, M. L.	Richmond	Allgood, R. A.	Fayetteville
Andrews, M. S.	Norfolk	Ambler, C. P.	Asheville
Baughman, M. P.	Richmond	Anders, McTyeire G.	Gastonia
Bigger, I. A.	Richmond	Anderson, Albert (Hon.)	Raleigh
Borden, D. L.	Washington	Angel, Furman	Franklin
Bullard, J. B.	Richmond	Ashworth, W. C.	Greensboro
Chapman, D. G.	Richmond	Averitt, Kirby G.	Fayetteville
Davis, W. T.	Washington	Baker, Julian M.	Tarboro
Easley, R. B.	Richmond	Banner, C. W.	Greensboro
Fuller, R. H.	South Boston	Barret, Harvey P.	Charlotte
Hall, C. L.	Washington	Barron, A. A.	Charlotte
Hargrave, E. T.	Norfolk	Battle, I. P.	Rocky Mount
Harper, E. C.	Richmond	Baxter, O. D.	Raleigh
Higgins, Wm. H.	Richmond	Beall, L. G.	Black Mountain
Lowenberg, E. L.	Norfolk	Beam, Hugh M.	Roxboro
Morton, C. B. II	University	Beam, Russell S.	Luniberton
Mitchell, J. F.	Washington	Beasley, E. B.	Fountain
Redwood, F. H.	Norfolk	Bigler, V. L.	Kinston
Shields, J. A.	Richmond	Blair, A. Mc Niel	Southern Pines
Stone, J. B.	Richmond	Blue, A. M.	Carthage
Sutton, L. E., jr.	Richmond	Boice, E. S.	Rocky Mount
Todd, M. H.	Norfolk	Bost, Thomas C.	Charlotte
Upchurch, R. W.	Danville	Brenizer, Addison G.	Charlotte
Ware, H. H., jr.	Richmond	Brinkley, H. M.	Durham
Wilfong, C. T.	Richmond	Brooks, R. E.	Burlington
Wright, F. J.	Petersburg	Burrus, J. T.	High Point
Daniel, D. S.	Richmond	Burt, S. P.	Louisburg
		Butler, L. J.	Winston-Salem
		Carrington, G. L.	Burlington
		Carter, T. L.	Gatesville
		Cobb, D. B.	Goldsboro
		Colby, C. D. W.	Asheville
		Cole, W. F.	Greensboro
		Cooke, G. Carlyle	Winston-Salem
		Coppidge, T. O.	Nashville
		Coppridge, Wm. M.	Durham
		Council, E. E.	Angier
		Crawford, R. H.	Rutherfordton
		Crowell, A. J. (Hon.)	Charlotte
		Crowell, L. A.	Lincolnton
		Daniel, N. C.	Oxford
		Davenport, C. A.	Hertford
		Davidson, J. E. S.	Charlotte
		Davis, Francis M.	Canton
		Davis, James W.	Statesville
		Davis, Richard B.	Greensboro
		Davis, S. W.	Charlotte
		Davison, W. C.	Durham
		DeLaney, C. O.	Winston-Salem
		Dickie, J. W.	Southern Pines

Dickinson, E. T.	Wilson	Julian, C. A.	Greensboro
Dickson, M. S.	Longwood	Kapp, Henry H.	Winston-Salem
Dixon, Guy E.	Hendersonville	Kelleher, L. B.	Charlotte
Dixon, G. G.	Ayden	Kelly, Luther W.	Charlotte
Dixon, W. H.	Kinston	Kennedy, John P.	Charlotte
Elliott, Joseph A.	Charlotte	Kerr, J. D.	Clinton
Elliott, W. F.	Lincolnton	Killian, F. M.	Nantabala
Faison, Yates W.	Charlotte	Kinlaw, W. B.	Rocky Mount
Fauntleroy, J. W.	Zirconia	Kitchin, T. D.	Wake Forest
Ferguson, R. T.	Charlotte	Kluttz, DeWitt	Washington
Fetner, L. M.	Charlotte	Lassiter, H. G.	Weldon
Finch, O. E.	Raleigh	Leak, Wharton G.	East Bend
Flagge, P. W.	High Point	Lee, Thomas L.	Kinston
Fleming, M. I.	Rocky Mount	Leinbach, R. F.	Charlotte
Foster, H. H.	Norlina	Love, Bedford	Roxboro
Fox, P. G.	Raleigh	Love, W. M.	Monroe
Fryar, C. H.	Oak Ridge	Macon, G. H.	Warrenton
Fuquay, G. L.	Coats	Mahoney, A. F.	Monroe
Gage, L. G.	Charlotte	Mangum, Charles P.	Kinston
Garrison, D. A.	Gastonia	Marr, M. W.	Pinehurst
Gaul, J. S.	Charlotte	Martin, M. S.	Mount Airy
Gibbon, Jas. W.	Charlotte	Martin, J. W.	Roanoke Rapids
Gilmore, C. M.	Greensboro	Martin, W. F.	Charlotte
Goodman, A. B.	Lenoir	Meisenheimer, T. M.	Charlotte
Gove, Anna M.	Greensboro	Matheson, J. P.	Charlotte
Grantham, W. L.	Asheville	Miller, O. L.	Charlotte
Green, Thomas M.	Wilmington	Mitchell, R. C.	Mt. Airy
Green, W. W.	Tarboro	Montgomery, K. E.	Asheville
Greenwood, A. B.	Asheville	Moore, A. Wylie	Charlotte
Griffin, M. A.	Asheville	Moore, Oren	Charlotte
Griffin, W. Ray	Asheville	Moore, R. A.	Charlotte
Griffith, F. W.	Asheville	Motley, F. E.	Charlotte
Hardin, R. H.	Banner Elk	Myers, Alonzo	Charlotte
Harrison, E. T.	High Point	Myers, J. Q.	Charlotte
Hart, V. K.	Charlotte	Munroe, H. Stokes	Charlotte
Hathcock, Thos. A.	Norwood	Munroe, J. P. (Hon.)	Charlotte
Highsmith, J. D.	Fayetteville	MacNider, Wm. deB. (Hon.)	Chapel Hill
Highsmith, J. F.	Fayetteville	MacRae, J. D., jr.	Asheville
Highsmith, J. F., jr.	Fayetteville	McBrayer, L. B.	Southern Pines
Highsmith, Seavy	Fayetteville	McC Campbell, John	Morganton
Hill, W. Lee	Lexington	McClelland, W. D.	Gastonia
Hipp, E. R.	Charlotte	McGregor, G. D.	Charlotte
Holt, Wm. P.	Erwin	McKay, Hamilton W.	Charlotte
Holmes, A. B.	Fairmont	McKay, Robert W.	Charlotte
Hovis, L. W.	Charlotte	McKnight R. B.	Charlotte
Jackson, W. L.	High Point	McLean, E. K.	Charlotte
James, W. D.	Hamlet	McMillan, R. D.	Red Springs
Jarboe, Parran	Greensboro	McPherson, S. D.	Durham
Jarman, F. G.	Roanoke Rapids	Nalle, Brodie C.	Charlotte
Johnson, Chas. T.	Red Springs	Nance, Chas. L.	Charlotte
Johnson, Thos. C.	Lumberton	Nash, J. F.	Saint Pauls
Johnson, W. M.	Winston-Salem	Neal, Kemp P.	Raleigh
Johnson, Wiley C.	Canton	Neblett, H. C.	Charlotte
Johnston, J. G.	Charlotte	Newton, Howard L.	Charlotte

Nisbet, D. H.	Charlotte	Tate, W. C.	Banner Elk
Nisbet, W. O.	Charlotte	Tayloe, David T. (Hon.)	Washington
Noblin, R. L.	Oxford	Tayloe, David T., jr.	Washington
Northington, J. M.	Charlotte	Tayloe, Joshua, 2nd	Washington
Ogburn, H. H.	Greensboro	Tayloe, J. C.	Washington
Orr, Chas. C.	Asheville	Taylor, E. H. E.	Morganton
Page, B. W.	Trenton	Taylor, F. R.	High Point
Patterson, F. M.	Greensboro	Taylor, Wm. L.	Oxford
Peeler, C. N.	Charlotte	Thomas, W. N.	Oxford
Peery, Vance P.	Kinston	Thompson, S. Raymond	Charlotte
Perry, H. G.	Louisburg	Thorp, A. T.	Rocky Mount
Perry, Leora	Charlotte	Todd, L. C.	Charlotte
Petteway, G. H.	Charlotte	Tucker, John Hill	Charlotte
Phillips, C. C.	Charlotte	Vann, J. R.	Spring Hope
Pittman, R. L.	Fayetteville	Verdery, W. C.	Fayetteville
Post, J. J.	Greensboro	Vernon, J. W.	Morganton
Potts, F. L.	Vanceboro	Warren, Wm. E.	Williamston
Procter, Ivan M.	Raleigh	Watkins, T. T.	Clemons
Pugh, Chas. H.	Gastonia	Weathers, Bahnson	Rosemary
Rankin, W. S.	Charlotte	West, L. N.	Raleigh
Ranson, J. L.	Charlotte	West, Thos. M.	Fayetteville
Reitzel, C. E.	High Point	Wharton, C. R.	Ruffin
Rhyne, Robert E.	Gastonia	Wheeler, J. H.	Henderson
Roberson, Foy	Durham	Whisnant, A. M.	Charlotte
Roberts, W. M.	Gastonia	Whitaker, F. S.	Kinston
Robertson, J. N.	Fayetteville	Whitaker, Paul F.	Kinston
Rogers, W. D.	Warrenton	Willis, B. C.	Rocky Mount
Royster, Hubert (Hon.)	Raleigh	Wiseman, P. H.	Avondale
Royster, T. S.	Henderson	Wooten, W. I.	Greenville
Schenck, S. M.	Shelby	Wooten, F. P.	Kinston
Scott, Chas. L.	Sanford	Young, C. R.	Angier
Scruggs, W. M.	Charlotte		
Sharpe, F. A.	Greensboro		
Shelburne, P. A.	Greensboro		
Shore, C. A.	Raleigh		
Shull, J. R.	Charlotte		
Shuford, J. H.	Hickory		
Sloan, A. B.	Mooreville		
Sloan, Henry L.	Charlotte		
Sloan, Wm. H.	Garland		
Smith, C. T.	Rocky Mount		
Smith, F. C.	Charlotte		
Smith, W. G.	Wendell		
Smith, O. F.	Scotland Neck		
Smithwick, J. E.	Jamesville		
Sparrow, Thos. D.	Charlotte		
Spoon, A. O.	Greensboro		
Squires, C. B.	Charlotte		
Starr, H. F.	Greensboro		
Stevens, M. L.	Asheville		
Suggett, O. L.	Asheville		
Sumner, E. A.	High Point		
Sutnrell, G. H.	Ayden		
Tankersley, J. W.	Greensboro		

Elected Fellows at Richmond Meeting

Battle, N. P.	Rocky Mount
Bradford, W. Z.	Charlotte
Epler, B. N.	Buxton
Hart, J. Deryl	Durham
Ivey, H. B.	Goldsboro
Shands, A. R., jr.	Durham
Smith, Sidney	Raleigh

The Sixtieth Annual Meeting of the AMERICAN PUBLIC HEALTH ASSOCIATION will be held in Montreal, Quebec, September 14th-15th. The Windsor Hotel will be headquarters. Readers are requested by C. C. Young, D.P.H., Chairman, to interpret this announcement as an invitation to attend that convention.

Where shall I drive you, sir?

I don't caresh; d'you know Jonson street?

"Yes, sir."

"Well don' drive me there; thatsh where I live."—*Aussie.*

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., Supt.)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

Obstetrics and Gynecology

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS PATTIE V. ADAMS, *Business Manager*

MISS FANNIE AUSTIN, *Nurse*

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*

CHARLES S. MOSS, M.D. *Surgeon*

O. J. MACLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE *Pathologist*

INTERNAL MEDICINE

JAMES M. NORTHINGTON, M.D.

*Diagnosis and Treatment
in*

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park Arkansas

JAMIE W. DICKIE, B.S., M.D.

*INTERNAL MEDICINE
DISEASES OF THE CHEST*

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Wachovia Bank Building

Winston-Salem, N. C.

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

Practice Limited to
ORTHOPEDIC SURGERY and FRACTURES

Fifteen West Seventh Street
105 W. Franklin Ave.

Charlotte
Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761
Burlington North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J
3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT
Telephones—

Office—4063
Hours—9 to 5 and by Appointment
219-23 Professional Bldg. Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.
Consultation 219 Professional Bldg.
Phone 4063

SURGICAL TECHNIQUE

THE MIAMI LABORATORY OF SURGICAL TECHNIQUE

Offers a Special Postgraduate Course

**IN SURGICAL TECHNIQUE
AND OPERATIVE SURGERY
ON THE CADAVER AND ON LIVE DOGS**

To Be Given During the Months of April and
May, 1931

For Full Particulars, Address:

MAURICE E. HECK, M.D., Director
601 Professional Building, Miami, Florida

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

*NERVOUS AND MENTAL DISEASE
ADDICTIONS*

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.
RAYMOND THOMPSON, M.D.
CLAUD B. SQUIRES, M.D.
THEODORE M. DAVIS, M.D.

Prostatic Resection and Operative Cystoscopy:

THEODORE M. DAVIS, M.D.
CLAUD B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology

ROBERT H. LAFFERTY, M.D.
CLYDE C. PHILLIPS, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKAY and McKay***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Professional Building**Charlotte**

Residence Phone 1858

Office Phone 1857

221 East Main Street

DR. W. B. LYLES**Spartanburg, S. C.**

Practice limited to

UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., Director***PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM***Colonial Apartments****Greer, S. C.****L. D. McPHAIL, M.D.****WYETT F. SIMPSON, M.D.***RECTAL DISEASES**GENITO-URINARY DISEASES*

Phone 1234

405-408 Professional Bldg. **Charlotte****Hot Springs National Park, Arkansas**

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building**Charlotte****RUSSELL O. LYDAY, M.D.***GENERAL SURGERY and SURGICAL
DIAGNOSIS***Jefferson Std. Bldg., Greensboro, N. C.****R. B. McKNIGHT, M.D.***SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30-5

Professional Building**Charlotte****WM. MARVIN SCRUGGS, M.D., F.A.C.S.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building**Charlotte****WILLIAM FRANCIS MARTIN, M.D.***GENERAL SURGERY
GYNECOLOGY***Professional Building****Charlotte****HAROLD GLASCOCK, M.D.***GENERAL SURGERY AND
DIAGNOSIS*

Office At

Mary Elizabeth Hospital

Raleigh, N. C.

SOUTHERN MEDICINE and SURGERY

Vol. XCIH

Charlotte, N. C., April, 1931

No. 4

Some Social and Medical Problems of An Isolated Region*

BLANCH N. EPLER, M.D., Buxton P. O., Cape Hatteras, N. C.

In my sojourns of the last few years beyond the usual routine of medical practice there has come an opportunity of noting factors which tend to the production and other factors to the prevention of disease, physical and mental.

While back in Baltimore I also had the opportunity of going over all high school girls in the state outside the city. This afforded like observations. As a result I have been wondering about the responsible agent for enlightening and guiding the laity into sound medical sense and a plan.

On an old isolated plantation hill beside the Potomac I found the grave of Dr. Octavius Brown, the physician of George Washington, while stored in trunks are letters, etc., concerning him. Other bits of medical history come my way, but the medical profession has no definite plan for preservation of old rural medicine.

Perhaps there is no place so conducive to getting to the bottom of some medical and other problems which confront us as that of an isolated, simply living community. Here a physician may look behind the customs and habits of daily life of the patient and note certain associated factors, which show a possible relative significance to complaints and disease states, physical and mental. Scientific medicine has here, in the absence of complexities, an opportunity of more direct approach.

The isolated Hatteras Banks Islands, a region of almost continuous sunshine, lies on the edge of the gulf stream, approached, up to the immediate present, by a four-mile-an-hour little mail-boat down Albemarle sound. Prof. Collier Cobb, of the University of North Carolina, who has been a visitor here since a child, has recorded the Old English speech and customs. Incidents and expres-

sions to which I refer are not to be taken in the sense of comique but rather with a meaning and a memo of our possible neglect.

This island of some 2,400 fishermen and United States Coast Guard people is the land of gale and shipwreck, where the battle of wind, sea and sand is continually waged, of ticks, malarial mosquitoes, hordes of rather handsome cats, older snuff-chewing women and some snuff-chewing children, broad-shouldered, ruddy older men, wild sand ponies and a variety of worms. The older Bankers, people of a type gone by as to numbers, humanize this region as vital patches of an isolated folk, probably of Old Devonshire stock and speech, dropped here through shipwreck ancestry, and curiously retaining some customs and speech and beliefs of Old England.

This was the region of Sir Walter Raleigh's Lost Colony. Here the pirate Black-beard rendezvoused and swam, with his head cut off, three times around his vessel: where there is evidence of the beaching of the lost vessel of Theodosia Burr, of the tallest oldest light house, and the first Marconi radio station. Here the last name does not count, so many intermarry.

Almost daily they fetch to my office alluring bits of folk lore; so "Miss" Pulvaney may come down in two-wheeled cart with legs dangling behind her sand pony, a God-fearing, thrifty woman. Her greeting is "Them trailers on your porch are pretty some and the nesties, I disremember what they are." "Doc, my old mon keeps goin' to leurd [leeward] these sensational sensations of his stomach mōmmick him so, he likes to die". "No his pains, I reckon are not irregular, but onregular, and his food abrades him; no he don't eat no pork, it does not agree with his diseases." A husband, Mr. Alaska, would

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

"apart" speak of his wife; he says "She was fittin to come herself, but kept going to leeward. Doc, I wish you would disencourage her not to make that visit she aimed to do, for oncet a doc told her she had a tumor growin from her kidney to her haid." Then "Miss" Percola, from 35 miles up the Banks, about her mentally defective grandchild: "Christopher Columbus is right confectionate with me most times and will do what I say, but when he gets his spell he acts terrified like. I am not faltin him for you know the night he was bornin, his mom saw a spurret and died. If he was not so little he ought to have a epidemic in his arm." And at sundown came puffing and blowing, up from the landing, a Coast Guardsman, whom I had sent to the Marine Hospital for gall-bladder operation. Just returned he came down to report appreciation and results. "Yes, I am better Doc, but I was bad off, the doc at the hospital, when he drained me, said that no gastron juice could go from the borb to the stomach."

Here frequent common complaints have seemingly little bearing on specific function or disease. They are rather those of deficiency, due to habits of living. Diet and nutrition are here factors for consideration in definite disease states.

The common complaints are:

"Foolish feeling in the haid," "misery," "innard fevers," "agra," "puny and picket," "cramp rheumatics," "pain in back," "gas stomach," "cramp colic," "gravel," "constipation," "tremblings," "sentional sensations," "nervous agra," "gone and trembly like."

Suggestive causes may be thumbed rather easily, but the getting over of the proper treatment is a problem, and a study of the case almost impossible.

The failure of an honest doctor to give positive assurance of a cure, as do charlatan and testimonial, and well-meaning interference, is a problem on the island, and only clearer evidence of present human nature prevailing elsewhere.

The diseases and functional conditions are few and common.

These are, in adults:

Gall-bladder disease, nephroses, stone, cardiovascular irregularity, so-called rheumatic heart, hypertension, early stroke, 40 years—

thrombosis (no cerebral hemorrhage noted), psycho-neuroses, constitutional inferiority, mental retardation, pneumonia, pellagra, general edema of a serum protein lowering and vitamin type, cancer, asthma.

Findings in children are:

Worms, hookworms, constitutional inferiority, idiocy, retardation, occasional cretinism and hypopituitary, nutritional defects, skin infections, pellagra, tuberculosis, anemic conditions, tuberculous meningitis, so-called rheumatic heart, respiratory infection, general edema.

Few doctors have been on the island, none before 1900. Then came Dr. Davis, who for 15 years with a vision of prevention built drains and roads, established vegetable gardens, encouraged fruit growing and the bringing in of cows as a means toward proper living, while he literally prescribed milk as a medicine. He guided the midwife and "old doctor women" (nurses) who today say "he was small but quick as powder." His work is a page for rural medical history. He now lives near Beaufort, N. C. The role of the island doctor over 50 miles of beach and pine woods strip in two-wheeled cart was hard.

Old Dr. Gates of Roanoke Island had the eye to business and greeted his patients with "What in H—are you doing here and what have you been doing to yourself, plant your money and I will care for you." Called for by a boatman from Chicamacomico, some five hours' trip across the sound, he found his patient amidst utter silence in a room lined with a bevy of old snuff-chewing sisters. Beside the patient each stood in turn wafting before her ear a stick to which was attached a fly squirming on the end of a black thread. With the spider from the ear and \$20.00 from the table, Dr. Gates was off. At the lower end of the island the old midwife-nurse tells me, "I gets a good strong smoking mon to fill up and blow the smoke in that ear and the critter comes out."

From the earliest times, midwives and "old doctor women" have cared for the "ailin" and many a choice incident and "yarb brew" comes my way. The old souls worked with their patients. One of the earliest, "Old Sal Tom"—husband's first name Tom—was said to be "a genus at it." A convalescent typhoid brought home from the mainland and thus cared for: "Black all over, we puts him on

a cot on the piazza, my daughter Nancy first on one side, and then tother helps rub with limber grease but not the juggle veins," and limber grease is this:

"You boils bones from animals broke at the joints, wild rose root, blackberry root, 'pops-on-wines' (passion flower), limber worms out of the ground, for limbering."

The brew for the rather frequent yellow and black "janders" which is said to always clear the yellow from the white of the eye and the yellow skin, was:

"White moss from the pine woods, poly-pody leaves (may be false fox glove): boil to a strength, add milk, boil to a point."

Hard practical sense and experience ran through these methods of these women. They evolved a medical art of their own which served them. The story of some of them is that of a seeking, reaching, groping attempt after knowledge in their art as they saw it.

The old midwife, "Miss" Rovine's, care of a pneumonia patient, after advice was given, is superb, under existing conditions.

In the passing of the old "doctor nurse" there is a loss of that similar valuable something of the old rural doctor, through which was obtained the application of advice. We have nothing to take the place of these old doctor nurses in such regions as the island. Nurses could learn much from their practices.

I have heard of only one old "doctor man," old faith doctor Cudugan Foster. They say, "He did no nointing, only lay his hands on and trust in Jesus came, unless the pain was too deep for God to relieve." I find that he also included the obstetrical cases.

In this time of Public Health and medical progress, tuberculosis is taking steadily increasing toll on the island. Previously the long chronic adult type, today it is levelling the adolescent and young adults. Malaria, an earlier scourge in these sedges, is now rarely found; though, the State Epidemiologist whom we brought in found mosquitoes in overwhelming numbers everywhere, 98 per cent of the malarial species. This finding is second in North Carolina to that of the Yadkin river, where an infected host or mosquito caused the Yadkin tragedy.

Asthma in babies and epileptoids seems definitely influenced through food habits, though a study has not been made. Pellagra

is found in young children. The infestation by intestinal parasites is heavy, as is the contamination of the soil. A mere observation of the life history of *Ascaris lumbricoides* through intestinal wall, and on through blood vessel to lung sac, indicates the traumatism and toxemia to be reckoned with, now underestimated. Early stroke here at 40, may be but a later picture of some of our undeveloped children, subjects of intestinal parasite injury and deficiency effects.

Quackery, advertisement, grocery and cheap drug-store medicine in rural regions, holds strong sway with patients, while 40 per cent of the patients coming to a physician bring complaints due to hygiene conditions, mental and physical; on the island it is nearer 60 per cent.

The change on this island has not been one of progress. The State School system and the medical profession, including the Public Health system, have lost an opportunity of making good human stuff. Deficiency diseases, functional disorders, nutritional disturbances and their degeneration effects, preventable, have changed physically and otherwise these island people. Upon such soil, within three years, has come venereal disease and the flimsy jazz and vice of outside so-called "civilization." The effects are pitiful.

Seemingly we are out of tune with the evolution of this exceptional rural people, in whom still lie the essentials of our democracy, and the best in life, while its medical history is slipping away. Unrecorded and beyond recall will soon be their customs and traditions. Industry, not medicine, initiated industrial medicine and the laity played the hand in much of the initiation of preventive medicine, nursing and welfare development. We have an unploughed field in medicine of home, community and school which awaits working. We have "Let George do it" too long and around the corner peers State Medicine, while the laity have made a new medical yard stick, snaggy, twisting and thin, though suggestive. We are not wise to underestimate the value of this, nor to depreciate the need of our medical coöperation towards directing the local material, in our establishing the art of medicine.

It might be deplored that our medical profession in its prenatal days of medical school,

and on through the clinical and medical organization years of medical practice, has not contemplated seriously the meaning and application of the science of medicine to individual, home and community habitual use. There does not seem to be an application in daily life of sound medical facts as essential habits, nor does there seem to be stimulation toward the same nor a workable plan for creating such an atmosphere.

Teachers have not in training schools been educated in health matters, do not practice health habits, and do not know what it is all about. Through the school sifts an atmosphere into the homes.

With the aim of true preventive medicine, that of helping people to help themselves, and the emphasis in medical inspection placed on the prediction of health and the prevention and detection of future disabilities, the education of the school child in personal health matters seems to be the best avenue for results in creating a proper medical and hygienic atmosphere in any community. An active coöperation of the medical profession, including public health employees, with the school profession may attain a standard of achievement and a plan, such that sound practical medical facts and proper evaluation of medical service becomes such an atmosphere among the laity.

DISCUSSION

DR. JAMES M. NORTINGTON, Charlotte:

We are greatly indebted to Dr. Epler for bringing us this unique contribution to our proceedings. She has made two powerful appeals to us. One is with regard to honoring the members of the profession who have gone before us, and another is always to bear in mind that all change is not progress. Each of these things has a very great appeal for me. I discussed some two or three years ago with several of the doctors of the three States represented in this association the matter of establishing a department of historical medicine in the journal, and that was done. To cite just a few that come into my mind now whose records have been recorded there, the very first contribution was from Dr. Seibels, dealing with a practicing physician, Dr. Thomas Dale, of Charleston, who became Chief Justice of the Supreme Court of the great State of South Carolina. From North Carolina, very recently Dr. deRoulhac Hamilton, of the University, wrote a sketch of the life of Dr. Hugh Williamson, who was one of the signers of the Declaration and a man of parts. Men of wide learning both of these were. Dr. Robert McKay gave a sketch of Dr. Ephraim Brevard, of

Charlotte, signer of a Declaration of Independence which we celebrate in Mecklenburg, but which excites hoots of derision among "lesser breeds without the Law." A young brother of mine, at that time a student at William and Mary College, ran across something which was astonishing to me (and I think to everyone unless he reads our journal)—the fact that James McClurg was the first professor of medicine in what is now the United States, or certainly the English-speaking portion of it. He was the whole faculty of medicine of William and Mary College and a member of the Continental Congress. He moved from Williamsburg to Richmond when this city became the capital. He received what would seem ample remuneration now; he received seven hogsheads of tobacco from the college and one from each student that he taught.

We have lagged far behind—not only the doctors of the South but the other professions—in failing to properly commemorate our great. The one who speaks out loudest is frequently the one who receives the credit which should go to someone else who remains silent and is overlooked. I ready a story some years ago of an English lady who had enjoyed the society of an American lady in crossing the Atlantic on one of our palatial steamers. With the reticence of the English, she had not inquired into the details of the other's life, but when nearly across she said: "I presume you come from Boston." "Why, no," replied the other, "I do not come from Boston; I come from Savannah." "I am astonished," said the English lady, "I felt sure you came from Boston." "Why?" "Because I thought all the cultured people of your country come from Boston." "Where did you get that idea?" asked the American. "Why, come to think of it, a Boston lady told me so."

I would suggest to you gentlemen that you look around you and find some notable medical characters in your community and let's write them down. I believe I wrote to Dr. Atmar Smith, whom I see there, about some Dr. Smith I had heard of in South Carolina, and asked him to look him up and suggested he might be a relative of his. But he did not reply.

Another point, of even more importance, is this plea for the preservation of peculiarities, individual and as those of peoples. Of all the damnable words which come into my mind every day probably the most damnable is "standardize." We are now meeting in a hotel named for a great exponent of individualism. The whole tendency in this country for near a century has been away from individualism, and we are getting into worse and worse condition. It is strange that the political party which started out as the follower of Jefferson has utterly abandoned his ruling idea. The idea now is to look to Washington for everything. The only thing I want from Washington is postage stamps. I have in my desk now (and I look at it very frequently) an astonishing plea for self-government. Does it come from one of our Democratic senators or one of our

Democratic representatives? No. It is signed by no less a Republican than Charles Evans Hughes. And, if you noticed, in Mr. Hoover's address to Congress some time ago he spoke of the need for local self-government.

There is need for preserving individual peculiarities. We are frequently criticised by our Northern friends as ignorant because we say "you all"; but if there are any two authorities in our literature they are the King James Version and Shakespeare, and both use this excellent form. You will recall the command, "Drink ye all of it"; and that Marc Anthony reminded those listening to his oration over the dead Caesar, "You all did love him once." Let's preserve our individual peculiarities and not all wear the same cut of clothes, not all go to the same meetinghouse in the same product of the Ford Motor Company or General Motors; let us not all say the same things but speak the language of Shakespeare and of King James's scholar translators, rather than the jargon of boosterdom.

I am very glad Dr. Epler came. I had something to do with inducing her to come here, and I am proud of my work. Let us try to do something to help her give her Roanoke Island people the solid benefits of modern medicine, preventive and curative; and to save them from the twin blights, Progress and Standardization.

Dr. EPLER, closing:

I might say that having been in practice, active practice, for years, these points with regard to prevention and the cause of our 40 and 60 per cent of patients coming with mental and physical complaints which have their inception away in former years do call attention to a need in the medical profession and the general practitioner for solving them. In this little travel of mine over the State, to which I referred in connection with the high-school work, I was approached by a large number of the elementary teachers with regard to this, that, and the other child. Now, doctors of the Tri-State, you have not been in that field and you do not know of many of the conditions which will affect our practice.

From 25 to 30 per cent of those children in the lower grades were mentally retarded or disturbed or were mental-hygiene cases, and there was no provision by the medical profession or the school profession or anyone else for meeting their needs. Suppose you sit outside of a large clinic and watch the hordes and hosts of people coming in. If you are associated with that clinic to a slight extent you can see that a large number of those cases are preventable. They do not get what they need from those clinics, neither do they from a large majority of medical practitioners. He does not appreciate, or she does not appreciate, that there is another side of medicine than that which is curative or which attempts to be curative.

I was very much impressed in the little town of

Pocono, on the coast of Maryland, by what was being done by the home economics department. The teacher was an older woman (we find our better teachers among the older women, to a large extent.) She was a Columbia University woman. She had taken a little old dingy room in a basement and turned it into an attractive room for the home economics department. She had turned over to the hands of her pupils for definite work in this department the children in the little school. The girls took for their work the following up of those children at home, at school and otherwise. Their home-economics intelligence was turned into active co-operation for the benefit of the rest of the school.

There are two journals which have been of great value and benefit to me in this isolated region; they are put out by the Children's Bureau of Washington. I have not anywhere come across any two better compilations of the two subjects. They are compiled by Dr. Mabel Elliott, but the contents are drawn from the contributions of the leading pediatricians over the country. They are on prenatal care and infant welfare—two separate volumes. We can not put our hands on any two better volumes than these from the Children's Bureau, and they are furnished free.

You know about President Hoover's school, up in the mountains of Virginia. What kind of teacher did he put there? Not one from our jazz civilization, but he took a fine mountain girl who had been taught in the real college and who understood the nature of the material she had under her. If you have seen a picture of that woman you realize that good judgment was exercised in trying to hold to those people, through their teacher, some of the characteristics they have given to us, rather than through the jazz and whirl of some of the teachers we put in the schools.

DENTAL DISEASE: NOTES ON PREVENTION

(Summary of report of a Committee, headed by Sir Harry Baldwin, C.V.O., M.R.C.S., Hon. Dental Surgeon to H. M., the King, in *The Journal of Dental Research*, February, 1931)

To prevent dental decay and pyorrhea: (1) Eat bread and other products made of wholemeal flour or of stone-ground white flour. (2) Eat foods containing all the vitamins. (3) Eat toast, crusts and other firm materials requiring mastication, in preference to soft, sticky foods. (Note: Vegetables, which require to be cooked, should be cooked for as short a time as possible.) (4) Eat raw fruits, nuts, raw vegetables, especially at the end of a meal. (5) Brush the gums and teeth without fail, after the last meal of the day or just before going to bed. (6) Visit a dentist, twice a year, for the inspection and, if necessary, treatment of the gums and teeth. The intelligent and steadfast practice of the means indicated in these rules would result in far fewer teeth being lost from dental decay or pyorrhea.

An Appraisal of Spinal Anesthesia for General Surgery*

Based On A Study Of Two Thousand Cases

G. PAUL LAROCHE, M.D., Richmond, Va.

From the Department of Surgery, Medical College of Virginia

There are two well founded reasons why the use of spinal anesthesia found difficulty in becoming popular. In the first place all surgeons living at the present time have been "brought up" on ether, and the loyalty of human nature will not permit us to discard this wonderful drug. In the second place, until very recent years, spinal anesthesia was attended by real danger on account of the depressing effects upon the blood pressure.

Thanks to the persistent efforts of those men who believed in the possibility of combatting the circulatory depressing effects of spinal anesthesia, there has been developed a technic by which the method is quite safe. Until the summer of 1929 I was one of the large group of surgeons who stood in opposition to the use of spinal anesthesia on account of the two reasons mentioned above. At this time, Dr. H. H. Ware, of the obstetrical department of the Medical College of Virginia, who had had a large experience in the use of spinal anesthesia, kindly consented to employ it for me in a certain number of selected cases in which, for one reason or another, we regarded the method as preferable to ether narcosis. I promptly saw the usefulness of spinal anesthesia in general surgery, and Dr. Ware kindly took the time and trouble to teach the method to our house staff and guide us in its use in a sufficient number of cases for us to acquire skill in its use.

We have employed it now in approximately 2000 cases with the greatest satisfaction, and without catastrophe. At first, we used it only upon patients handicapped with some such condition as diabetes, kidney breakdown, or greatly impaired vitality, and for operations upon the lower extremities, bladder and prostate. We saw that the anesthesia would be adequate for operations in any part of the lower abdomen, and soon learned that it was satisfactory for operations upon the stomach, gall-bladder and kidney. As we began to test the height of the anesthesia, we found in many

cases that it extended well above the clavicle, so finally we employed it in operations upon the chest wall, including operations for radical removal of cancer of the breast.

We have used it in a large number of cases of diffuse peritonitis, complete intestinal obstruction, perforating ulcers of the stomach and bowel, splenectomy, appendicitis, ruptured tubal pregnancy, large fibroids and ovarian cysts, rupture of the uterus, one case of abdominal pregnancy (full term), all kinds of hernia (simple and complicated), bladder stones and tumors, poststatic hypertrophy, all diseases of the rectum, genitalia and diseases of the lower extremity.

We have used it in individuals varying in age from six to 79 years. We have not employed it in babies, for the reason that the needle might easily be broken. The only case in which we have found it unwise to employ this method was that of a man who had a carbuncle exactly at the point most favorable to lumbar puncture.

The advantage of performing the operation under complete relaxation of spinal anesthesia can scarcely be comprehended until seen. The ease with which it is performed, the slight amount of trauma to the viscera made possible by the lessened need for intraabdominal packs to keep the bowel out of the way, are so patently obvious in permitting exact and gentle technical procedures that it seems like crude surgery to perform under ether narcosis any operation that can be done under spinal anesthesia.

There are few limitations to its use. The anesthesia seldom lasts longer than an hour and a quarter. Occasionally it has lasted an hour and a half; sometimes it may disappear in slightly less than one hour. Even in operations requiring more than one hour for performance, as will occasionally be the case for ulcer or cancer of the stomach, difficult gall-bladder operations, or difficult splenectomy or nephrectomy, it is easy to supplement the

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

spinal anesthesia with gas-and-ether narcosis.

There will be found occasionally a patient with deformity of the spine in which it is difficult or impossible to insert the needle at the proper location for lumbar puncture. We have not met such a case, though we have had several old men with spondylitis into whose spinal canals it was difficult to introduce the needle. We have employed it in one case for the removal of the gall-bladder in a patient who two years before had a bone graft into the dorsal lumbar spine. We have had no difficulty in dealing with timid patients, but it is conceivable that at any time such a situation might arise. A certain amount of tact is useful here as elsewhere in the practice of any branch of medicine. We have routinely made the puncture and injection with the patient lying on the side with knees drawn up and shoulders down. In a few cases we have found it difficult to make the puncture and have had the patient sit up and bend forward to increase the space between the bones. We have used ephedrine hypodermically with morphine given a half-hour before the patient is carried to the operating room. In some cases with extra high blood pressure we omit ephedrine either before or during the operation. Throughout the operation the head of the patient is kept low. Following operation we keep the foot of the bed elevated for from one to four hours.

We have in every case watched with scrupulous care the patient's general condition and blood pressure. For this purpose we have a trained anesthetist from the moment the process is started until the patient is back in bed in the room. We regard this as a very essential point and, though we have rarely seen signs of danger, we would not countenance the neglect of this painstaking observation during any operation. The whole job of surgical operations and anesthetization is so serious that we would not for a minute tolerate any lack of skilled care. We are deeply indebted especially to Miss Addleman for her unusual adaptability and skill in watching and treating the patients during spinal anesthesia, and for what she has taught others of our team. Every member of the house staff during his time of service on surgery has been instructed in the method, and almost every one of them has become skillful. Our resident surgeons, Drs. Reed and Barnes, have had immediate supervision of all cases

and have instructed other members of the house staff. There are many special procedures we have learned to employ.

It is the surgeon's responsibility to supervise every detail in connection with the care of the patient, and we have found it better never to ask a patient what kind of anesthesia he (or she) wants. When a patient asks us what he is going to get, we tell him that he is going to get a hypodermic needle in the back, his legs will go to sleep, and we give him whatever else he may need.

After the drug is introduced, the patient's eyes are covered with a wet gauze sponge, cold cloths are wrapped around the neck, he is instructed to be quiet and go to sleep. Occasionally, in apprehensive patients, we place an inhaler over the nose, and instruct them to breathe through it, dropping a little aromatic spirits of ammonia or occasionally a little ether and thus *rock them to sleep*. We never ask a patient if anything hurts. We have found this to be superfluous. When we hurt people they tell us without being asked. It is a pernicious suggestion that what we are doing is painful, and may invite an answer in the affirmative when the facts are they have not even felt it. Frequently when an operation is about half finished, we tell the patient we are nearly through, and he is filled with joy to know he has been through the operation without going to sleep. Many times we carry on a conversation with the patient while operating. Doctors, medical students and nurses have been particularly satisfactory subjects. Indeed, a great many intelligent persons are quite interested in discussing with us the technical procedure as we go along with the operation.

Spinal anesthesia is not suitable to the surgeon who works too slowly, or to the amateur with rough hands and unskillful methods. Reasonable speed and dexterity are necessary. Hysterical excitement on the part of the surgeon causes mental distress to the patient who is conscious during the procedure.

In this series of 2000 cases two needles were broken during the operation. This is a disagreeable but not a serious occurrence, easily preventable if one determines before beginning that the needle is not defective and uses reasonable care in its introduction. Sometimes a patient vomits. Experience and sympathetic interest on the part of the one who watches the patient during the process

prevents this in a great majority of cases, and stops it in the other half by cold cloths to the face and neck and by instructing the patient to breathe deeply through the mouth. Sometimes the patient complains of discomfort on account of the shoulder pieces of the table being not well padded, or from being crowded down too closely upon them. Painstaking supervision prevents or relieves this distress. If the surgeon puts his own elbows and body weight on the patient's chest or throws instruments down upon the patient's body above the field of anesthesia the patient becomes conscious of it.

We had a few patients in whom, in spite of what we thought was the proper injection and drug, anesthesia was not secured. Curiously enough, this happened in one case on the same day when another surgeon was unsuccessful in getting another patient relaxed with ether. In our case, in which the spinal anesthesia did not take, we gave ether successfully. In the other case, in which the ether did not take, the operation was done the next day under spinal anesthesia.

We have had a number of cases in whom the blood pressure was very low, and some desperately sick with intestinal obstruction, peritonitis and other terrible diseases requiring dangerous operations, in whom toward the end of the operation the blood pressure could not be recorded. In these cases we gave ephedrine, occasionally adrenaline, and in all cases in which there is shock before we start, or in which we anticipate a difficult or prolonged operation, we give intravenous injection of salt solution. We have found recently that inhalations of CO₂ are beneficial in raising a low pressure.

No patient has died from the anesthesia, either on the table or after the operation during the time that the drug could have had any effect. We lost one patient on the table toward the end of the operation for ruptured uterus with massive intraabdominal hemorrhage. We cannot say that the spinal anesthesia had nothing to do with the death. In a patient with rupture of the uterus and massive hemorrhage following unsuccessful attempt at delivery of full term pregnancy, we could not reasonably ascribe the death to the anesthesia employed whatever it may have been.

Concerning postoperative complications, we have had so few that we were about to forget

to mention them. The method cannot give immunity to postoperative complications of the disease. We have noticed such a diminution in respiratory complications following operations that we do not even expect to have cough, or pneumonia. Certainly no one can fail to realize that this must be greatly diminished as compared to ether, and yet we have had at least half a dozen recognizable cases of pulmonary atelectasis. There have been a few cases of vomiting and headache, nothing like as many as are expected as a part of etherization.

Concerning the much anticipated and dreaded motor-sensory paralyses, these are a myth. They don't happen. Organic spinal cord paralysis cannot be produced by the proper method of making a puncture between the second and third, or third and fourth lumbar vertebrae.

There was one very interesting case of a 10-years-old colored boy, who, following amputation of one foot for ankle joint tuberculosis was unable for two or three months to move his leg. This interested us tremendously, and gave us great anxiety. There was no disturbance of sensation, no change in reflexes, no other sign but loss of voluntary motion. We examined the boy and had a great many others examine him almost daily for several weeks. No change could be discovered. Following this, we let him severely alone, and in a few weeks discovered normal motion had returned. We finally concluded that this boy's paralysis was a purely hysterical product of suggestion resulting from loss of motion at the time of operation, and too much examination afterward.

We have examined with care many hundreds of cases for loss of motion and sensation in this group of 2000, and in not a single case have we seen any disturbance of normal after the anesthesia has worn off. Nowadays we never mention the subject or examine them afterwards, for we are afraid that the suggestion might result in hysteria.

We believe spinal anesthesia should be used upon all patients needing operation who are old enough to cooperate while the needle is being introduced for lumbar puncture. The contraindications are only in those patients in whom the puncture is impossible or unwise, *i.e.*, because of ankylosis of the spine in this location, or in cases in which there is

infection of the soft parts of the back exactly at the point for needle puncture.

A certain amount of skill, easily acquired, is necessary. Painsstaking observation of the patient from start to finish is essential. We have given it to some patients as many as five times, usually after several days interval, though in a few cases it was given a second time within 48 hours.

SUMMARY

We consider spinal anesthesia one of the greatest advances made in the progress of

surgery since the introduction of ether. It has an extremely wide field of usefulness. We have employed it with the utmost satisfaction in operations in all parts of the body below the clavicle.

It should be employed in preference to ether, and is a life-saving method in people handicapped or in some way unsuited to the administration of ether.

It is safer than large quantities of novocaine administered by local infiltration and nerve block.

(Discussion with that of next paper, on p. 244.)

The Indications for Spinal Anesthesia in Pregnancy Complicated By Cardiac and Renal Disease*

Preliminary Report

H. H. WARE, JR., M.D., Richmond, Va.

From the Department of Obstetrics, Medical College of Virginia

Six cases of pregnancy herewith reported in which operative interference was necessitated because of nephritic or cardiac disease constitute too small a series to justify emphatic conclusions. Yet they appear definitely to indicate an advance in the treatment of patients with these complications. The cases abstracted appeared in my private practice and in the wards of the Medical College of Virginia hospitals. They were referred for consultation or emergency treatment. We believe in the conservative treatment of the toxemias of pregnancy by careful prenatal care to prevent toxemias, by termination of pregnancy in patients growing progressively worse, by control of convulsions by medication, and by shortening of the second stage of labor.

The nephritic cases reviewed in this paper were studied carefully and pregnancy was terminated by the abdominal route because we believed further medical treatment would not have increased the chances for a live baby and would have definitely decreased the mother's chances. Pregnancy can be terminated rapidly by the abdominal route and the patient can be sterilized by resection of the cornual ends of the fallopian tubes, thus making

a second operation unnecessary by preventing future pregnancies. Every investigation of the maternal blood during pregnancy shows a metabolic balance that is not quite normal. The CO₂ tension is low, and is reduced very much more in all the so-called toxemias. Pardee states that gas anesthesia should be especially avoided in cardiac cases, because it increases cyanosis and thus aggravates one of the features of heart failure. Hamilton and Kellogg recommend cesarean section for the majority of primiparae with cardiac disease because of the danger of a prolonged first stage of labor in these patients.

In the 1930 edition of William's *Obstetrics*, it is stated that the rare cases of toxemia which necessitate abdominal intervention do much better when the operation is performed under spinal or local anesthesia.

Spinal anesthesia permits the termination of pregnancy by the abdominal route with minimum shock to the patient because its action is that of a nerve block with complete relaxation of the abdominal wall. It lowers both the systolic and diastolic blood pressure, slows the pulse, and introduces no element of renal or hepatic irritation. It adds nothing to the blood which may interfere with the re-

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

suscitation of the baby or the functioning of any of the vital processes. Postoperative nausea and distention are reduced to a minimum after spinal anesthesia. The technique used is essentially the same as that reported in my paper on spinal anesthesia in 1929.

CASE REPORTS

1. Gravida 12, para 7, aged 36, referred to Memorial Hospital by two physicians for therapeutic abortion because of pregnancy of 20 weeks' duration complicated by hypertension. B. P. 190/110, general edema and shortness of breath.

First baby living. The other 10 pregnancies terminated as abortions or premature labors and patient has only one living child. Last three pregnancies were terminated by therapeutic abortions and patient states she had convulsions at fourth month with last pregnancy.

Retinal vessels are engorged and tortuous. Evidence of chronic nephritis. Teeth in poor condition, tonsils small, heart enlarged and suggests gallop rhythm, uterus enlarged to size of five months pregnancy, cervix long, closed. Blood chemistry and kidney function tests gave normal readings. Urine contained albumin, heavy trace: many hyaline and granular casts. Wassermann reaction was negative. Five days later patient had not improved.

She was given spinal anesthesia, novocaine crystals 100 mg. and abdominal hysterotomy and sterilization was done, by resection of cornual ends of tubes. Patient returned to ward in good condition. Temperature remained below 100 after first day. Convalescence was normal. Thirteen days postoperative patient was discharged; her B. P. was 130/80, pulse 80. Urine contained a trace of albumin and both hyaline and granular casts.

2. Gravida 2, para 1, aged 28, referred because of pregnancy of three and one-half months' duration complicated by hypertension. B. P. 170/90, and frequent severe headaches.

First pregnancy 1924, eclampsia at seventh month after rigid diet. The child lived, and B. P. and urine were normal six weeks after delivery. Scarlet fever in childhood, tonsillectomy in 1920, appendectomy in 1924. History of migraine in mother's family.

B. P. 170/100, wgt. 127 lbs., urine contained a faint trace of albumin. Otherwise examination essentially negative.

This patient stated she would take any risk for a child. She remained on a strict diet and in bed most of the time for the next two months. Sept. 22nd, she was six months pregnant, and her condition was grave. She had constant headache, B. P. 220/110, urine contained albumin 1 plus, and occasional casts, eye grounds engorged, no separation of retina. She agreed to the termination of her pregnancy.

Spinal anesthesia 90 mg. was administered and an

abdominal hysterotomy and sterilization by resection of the tubes was done. When the uterus was opened there was a retroplacental clot the size of an egg and the fetus apparently was not viable.

Ten minutes after the anesthetic was administered the B. P. was 190/105, 30 minutes later 150/90. This level was maintained for several days. The patient left the operating room in fair condition and had an uneventful convalescence. Six months later her B. P. was 160/100, the urine contained a trace of albumin and an occasional cast, but the patient stated she felt well.

3. Gravida 10, para 6, aged 32, Negro, admitted as an emergency to St. Phillips Hospital because of pregnancy of eight calendar months, complicated by cardiac disease, with nephritis and hypertension, B. P. 198/116.

Six living children, all normal deliveries, three spontaneous abortions. Rheumatic fever two years previous. No labors since.

Eye grounds normal, teeth poor, tonsils small, marked cardiac hypertrophy, and dilatation with auricular fibrillation, pulse 110. Diagnosis—Rheumatic heart disease with mitral stenosis and regurgitation. Fundus of uterus measured 35 cm. F. H.

L. L. Q. 140. Moderate general edema, cervix long, thick—1 cm., dilated. Blood constituents normal. Wassermann reaction negative. Urine contained 4-plus albumin and many hyaline casts. Examination otherwise unimportant.

Patient was treated with digitalis and codeine for five days with some improvement.

March 7th, under spinal anesthesia, novocaine crystals 140 mg., a low classical cesarean section was done, and a living child delivered. Patient was sterilized by resection of cornual ends of both fallopian tubes. She stood the operation well and returned to the ward in fair condition. On admission to the operating room B. P. was 188/120. Five minutes after injection of the spinal anesthetic the B. P. was 100/70, and remained about this level. This patient had an uneventful puerperium and was discharged 18 days postoperative with no auricular fibrillation and no edema, and a live baby.

4. Gravida 3, para 2, aged 31, referred as private case because of pregnancy of five months' duration complicated by B. P. 140/90 and frequent headaches.

Two former pregnancies, first 1922, terminated at eight months by induction of labor followed by version and breech extraction and a stillborn baby. Cause of procedure unknown. Second pregnancy 1926, membranes ruptured spontaneously at eighth calendar month, patient remained in bed and onset of labor was spontaneous 13 days later. A macerated child delivered spontaneously.

Pulse 82, resp. 20, B. P. 140/90, teeth and tonsils in fair condition. Prominent varicose veins and con-

siderable scar tissue in left arm as a result of operation for obliteration of the varicose veins. Perineum relaxed. Deep laceration of right side of cervix, abnormal torsion of retinal vessels. Catheterized specimen of urine, essentially negative. Examination otherwise unimportant.

This patient was given a strict diet and rest, but a gradual rise in both systolic and diastolic B. P. and a gradual increase in amount of albumin in her urine, and the appearance of casts could not be prevented.

During July patient remained in bed after the danger of her condition was again explained to her. August 8th, patient had some blurring of vision and examination of the retina revealed a few pin-point hemorrhages. The B. P. was 170/100. The urine contained a trace of albumin and frequent casts. The patient consented to termination of her pregnancy.

The cervix was long and thick with no dilatation. On August 8th, 1930, spinal anesthesia, 125 mg., was administered and a low classical cesarean section was done. A living premature baby was delivered. The patient was sterilized by excision of cornual ends of both fallopian tubes. Patient left the operating room in good condition. Her convalescence was uneventful. She was discharged 13 days postoperative with blood pressure 160/100. Six months later this patient still had frequent headaches, B. P. 160/100. Catheterized specimen of urine, contained trace of albumin, occasional cast, and patient's eye grounds showed evidence of chronic nephritis and arterial sclerosis.

5. Gravida 1, para 0, referred to Memorial Hospital because of pregnancy of 38 weeks' duration. Complicated by mitral stenosis with cardiac decompensation. She has been in bed four months and digitalized under treatment of two private physicians.

Rheumatic fever at age of seven years. Measles and pertussis in childhood. Shortness of breath after any exercise, or walking up one flight of steps for past three years. Has remained in bed most of the time for last seven months.

B. P. 128/70, moderate cardiac hypertrophy with both systolic and presystolic murmurs, decompensation manifested by patient's inability to get out of bed or take exercise, teeth good, tonsils small, apparently not cryptic, height of fundus 35 cm., cervix long and thick, no dilatation, head floating, examination other negative.

Seven days later patient's condition about same. Under spinal anesthesia, novocaine crystals 150 mg., a cesarean section, low classical type, was done and a living child delivered. Both fallopian tubes were removed. Pulse remained 80 and blood pressure remained 130/80. Patient was returned to ward in good condition and had a normal convalescence with no elevation of temperature. Discharged 15 days later, mother and baby doing well.

6. Gravida 10, para 8, aged 40, referred because of pregnancy of six calendar months, complicated by nephritis and hypertenoin. Has been progressively getting worse under treatment of a private physician.

Patient had edema, headache, and high blood pressure with last three pregnancies. Last pregnancy terminated as spontaneous abortion at two and one-half months. Constant headache and marked general edema for past three months. Has been on a diet and in bed recently.

B. P. 250/140, pulse 80. Moderate hypertrophy of heart, otherwise normal. Ophthalmoscopic examination showed marked venous congestion and evidence of chronic nephritis. Urine contained 4-plus albumin and abundant hyaline and granular casts. Blood chemistry was approximately normal. Uterus size of a six months' pregnancy. Cervix thick, closed. Examination otherwise unimportant.

Three days later patient's condition had not improved and she was given spinal anesthesia, novocaine crystals 150 mg., and an abdominal hysterotomy and sterilization was done. B. P. when the anesthetic was administered was 230/130; 10 minutes later the pressure was 130/80. Ephedrine gr. $\frac{3}{4}$ was given and the pressure remained about the same level.

The temperature remained below 100° and the convalescence was normal. Patient discharged 18 days postoperative, B. P. 168/100, urine albumin 2-plus and many casts.

SUMMARY

1. Serious cardiac or renal disease constitutes a definite indication for the interruption of pregnancy which is most quickly and safely accomplished by the abdominal route under spinal anesthesia.

2. Spinal anesthesia lowers blood pressure, and usually slows the heart rate.

3. Abdominal relaxation is marked, facilitating the operation and lessening trauma to the viscera.

4. Hemorrhage during operation is lessened, increasing the patient's resistance.

5. Resuscitation of the baby is less difficult.

6. Postoperative nausea, vomiting, and abdominal distention are decreased, hastening convalescence.

7. The heart and kidneys are taxed by no irritating element.

References

HAMILTON, B. E., and KELLOGG, F. S.: *J. A. M. A.*, Vol. 91, 1942, Dec., 1928.

PITKIN, G. P.: Spinal Anesthesia in Obs. and Gyn. *A. J. Obs. and Gyn.*, Vol. 18, 165, Aug., 1929.

ASTLEY, B. G. M.: Spinal Anesthesia in Cesarean Section for Toxemia of Pregnancy. *A. J. Obs. and Gyn.*, Vol. 13, 83, Jan., 1927.

COSGRAVE, S. A.: Spinal Anesthesia in Obstetrics. *A. J. Obs. and Gyn.*, Vol. 14, 751, 1927.

DICKINSON, ROBERT L.: Sterilization Without Unsexing. *J. A. M. A.*, 92, 373, Feb., 1929.

WILLIAMS, J. WHITRIDGE: Indications for Therapeutic Sterilization in Obstetrics. *J. A. M. A.*, 91, 1237, Oct., 1928.

WILLIAMS, J. WHITRIDGE: Obstetrics, 6th Edition, 1930.

STIEGLITZ, E. J.: Nephritis in Pregnancy. *A. J. Obs. and Gyn.*, Vol. 21, 26, Jan., 1931.

MUSSEY and KEITH: Significance of Nephritis in Pregnancy. *J. A. M. A.*, Vol. 91, 2044, Dec., 1928.

DISCUSSION

DR. M. H. TODD, Norfolk:

I should just like to add my small word of exact corroboration to Dr. LaRoque's exhaustive paper. My own cases are very few in number—about 40. There is only one difference in the technic that we used, as compared with that of Dr. LaRoque. That is that we swallowed hook, line and sinker the writings of Koster, of Brooklyn, and of Labat; we do not use ephedrine at all and pay almost no attention to the blood pressure. We do use the Trendelenberg position, routinely. The blood pressure falls; it falls so much that sometimes, as Dr. LaRoque says, the pulse is not perceptible at all at the wrist. The patients have all done, of course, perfectly well, just as he said they did. We have used it also, as he said he has done, in a few cases as high up as the clavicle. I am glad to hear that he uses it and feels that it may be used almost as a routine for general anesthesia.

DR. J. R. YOUNG, Anderson:

I am not an obstetrician but do operate on obstetric patients, and my experience is almost identical with that of the writer of the first paper—that spinal anesthesia is almost ideal for emptying the uterus and also for a sterilizing operation when sterilization is indicated.

I am not as fortunate as some have been; I have had one death, in a lung-abscess case in a young lad. It was almost impossible to do it under general anesthesia, and we thought it was too big to do under infiltration. I gave him what I thought was the proper dose, and did the first stage of the operation, and he stood it finely. Some time later I went back and gave him the same dose; to do the second stage. He had respiratory failure, and in spite of all our efforts we had a death. The death was from respiratory failure. I still use spinal anesthesia, but I have a profound respect for it. It is not pleasant to see a person die, and I saw this boy die. When anyone tells me it has no influence on the respiratory center I do not believe it. I do not believe

there was anything wrong with my technic in that case; I had given the same dose before, with no ill effects. That case will be reported soon.

My percentage of what I call respiratory difficulty, vasomotor instability, pallor, etc., has been a little higher than the doctor indicated. I grade my respiratory reaction one, two, three, four. In about 10 per cent of the cases I have vasomotor reaction one and two. They had about 5 per cent where vomiting was distinctly bad.

My own appraisal of spinal anesthesia is that it is a wonderful aid in surgery. I frequently select it when I think it is safer than ether in a given case, but I have a profound respect for it. I have this idea about it; while the patient is in our hands, he still has a right to say what he wants; and if he would rather go to sleep and I think he can safely go to sleep, I prefer to put him to sleep. That is a matter of preference, of course, but that is my practice. If they choose general anesthesia and object to spinal anesthesia, I have quit objecting to it, because a nervous tension is quite objectionable in my hands.

DR. WARE, closing:

I thank the doctors for the discussion. There is only one thing I did not bring out in my case. Of the four cases, in two the evidence was that the fetus was already dead. That is a rather interesting point; if the patients had been allowed to go on they could not have had a live baby anyway. We know that in nephritis the incidence of abortion is much higher, and in the severe cases we get an early death of the fetus.

DR. LAROCQUE, closing:

I have nothing to add. I suggest to Dr. Young that in the first injection of spinal anesthesia the lung did not adhere to the plura, and in the second it did, and there was severe shock.

SALYRGAN AS A DIURETIC. REPORT OF SIXTY CASES

(Sprague, H. B., and Graybiel, Ashton, in *New England Journal of Medicine*, January 21st, 1931)

Sixty cases treated with salyrgan are reported. Forty-six patients had cardiac disease with congestive failure; eight had cirrhosis of the liver; four had cancer.

In spite of the fact that one-third of these patients were in the terminal stages of chronic disease, diuresis was secured by the use of salyrgan in 80 per cent. This diuresis exceeded twice the fluid intake in 55 per cent of the cases.

The diuretic effect may often be increased by the use of ammonium chloride or nitrate.

Toxic effects from salyrgan are very rare and consist of mild renal, gastro-intestinal or skin irritation. The only complication of importance in our series was in one patient who had cellulitis of the arm and thrombosis of the vein into which the drug was given. Careful technique should prevent this.

Some Clinical Considerations of Intravenous Urography Using Skiodan and Iopax*

W. CALHOUN STIRLING, M.D., F.A.C.S., Washington, D. C.

Associate Professor of Genito-Urinary Surgery, Georgetown University Medical School
Consulting Urologist, Columbia Hospital; Urological Staff Georgetown University,
Casualty and Garfield Hospitals

INTRODUCTION

Intravenous urography has been perfected by Swick, von Lichtenberg and his assistants during the past two years. Since that time various articles have appeared in the literature describing in detail the physical and chemical properties, method of administration, indications and contraindications to intravenous pyelography. To evaluate its proper place in urological diagnosis, all of the clinical evidence should be studied and reported. Only by this method may we arrive at a fair and intelligent conclusion as to its merits.

Instrumental or retrograde pyelography was brought out by von Lichtenberg in 1905. Rapid strides have been made in the diagnosis of lesions of the upper urinary tract by the aid of this method. There are a number of borderline cases, however, in which we are unable to make a complete diagnosis by retrograde urography. This stimulated various workers to find a medium which, when introduced into the blood stream, would be excreted in sufficient concentration to render the urinary tract opaque to the x-ray. There were certain requirements which this substance must fulfill in order to be acceptable. Primarily, it had to be non-toxic and isotonic with the blood elements. Secondly, it had to be excreted in sufficient concentration to render the urinary tract opaque to the x-ray. Iopax, formerly called uroselectan (sodium-2-oxo-5-iodo-pyridine-N-acetate) and skiodan (iodo-methane-sulphonate of sodium) fulfill these requirements, being organically-bound preparations containing 42 and 52 per cent of iodine, respectively. They may be given by mouth, rectum or by vein, preferably the latter. Iopax has been on the market for the past year, whereas skiodan has been released only recently to the medical profession. Quantities of skiodan having been sent

to various urologists for a preliminary investigation, some of it came into our hands, and this study is based on our results with that quantity, as well as a brief clinical discussion of both preparations. Skiodan has a higher percentage of iodine per gram but a smaller quantity of iodine per dose, and is slightly more opaque to the x-ray. Intravenous pyelography is in no sense a substitute for, but an adjunct to, the retrograde method and may enable us to bridge the gap that now exists in the diagnosis of certain obscure renal and ureteral conditions. The ideal method would be to make a preliminary intravenous study of all urological cases, then a follow-up of any abnormalities detected, by a careful cystoscopic examination. However, the present cost of the intravenous method prohibits the use of this procedure at the present time so that the exact place that this method will occupy in the study of urological conditions has not been finally settled.

INDICATIONS

Certain theoretical advantages that intravenous methods offer over retrograde methods are: 1. By a single injection the entire urinary tract may be delineated, especially the kidneys, due to the deposit of the substance in the parenchyma. 2. It affords a rough gauge of the renal function by an estimation of the iodine excreted, the specific gravity reading, as well as an estimation of the iodine content of the blood (urinary excretion and blood retention tests). 3. Congenital anomalies, such as double ureters, horseshoe kidney, renal duplication, etc., are going to be found more frequently, as intravenous pyelography offers a much better method of detecting these conditions. 4. A physiological as well as a pathological study and an insight into the heretofore little-understood dynamics of the urinary tract may be made. 5. With children it is a distinct ad-

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

vantage for technical reasons. Also, with those suffering from prostatic hypertrophy and with patients in which, for pathological or anatomical reasons, cystoscopy with ureteral catheterization is impossible. It should be understood, however, that one is working with an organ constantly undergoing change of form, and not entirely unlike the stomach in that periods of systole and diastole are observed, *i. e.*, alternating filling and expulsion of the content of the renal pelvis. It is in diastole that the urinary tract is outlined. In retrograde urography one frequently sees the urinary tract in systole with distortion of the renal pelvis and calyces as a result of an attempt at expulsion of the irritant introduced from below. However, with the more general use of skiodan or iopax as a retrograde pyelographic medium, untoward reactions and distortion seen as a result of the irritation should be obviated and bilateral pyelography performed with safety. There is no question but that in the past certain obscure lesions have been erroneously diagnosed, such as stricture, kinks and other ureteral malformations. With the experience that the reported cases give us, as well as with the continued use of these intravenous substances, the interpretation of the physiology, emptying time and dynamics of the urinary tract should be more clearly understood. This will open up an entirely new field in observing the excretion and propulsion of urine from the renal cortex to the bladder. A good shadow is usually indicative of normal renal function unless stasis is present.

METHOD OF EXCRETION

Peterfi and his assistants have demonstrated that iopax is eliminated through the glomerular system, and that disturbances of elimination occur principally in diseases of the glomerulus. This should be helpful in cases of medical nephritis as an aid in the differential diagnosis between tubular and glomerular nephritis. Swick and others have shown that the opacity of the substance is dependent on the kidney threshold. This normally represents a five per cent concentration, as against 12 to 15 per cent concentration by the retrograde method. This of course means that pictures made by the intravenous method are less clear, and do not delineate the minor degrees of deformities in the calyces and renal pelvis.

CLINICAL APPLICATION

Braasch says in a survey of his experience with intravenous urography that "its greatest value exists in the demonstration of stasis, and unless there is stasis in the calyces and pelvis it is frequently disappointing in its lack of detail." Kretschmer points out that the best pictures are obtained in hydronephrosis and hydroureter, and that the involved side stands out in marked contrast to the normal side.

A point of great importance is in the clinical interpretation of the urograms. Usually the absence of a shadow suggests one of three things: *a.* temporary inhibition, *b.* the absence of a kidney, or *c.* the complete destruction of the organ. However, in two of my own cases, as well as in cases reported by Swick and other writers, there was a complete absence of the opaque substance in the renal area over a period of several hours. A well-outlined renal pelvis, in the absence of stasis, is evidence of good renal function, but the reverse is not necessarily true. Braasch says that "it is not secreted in the same concentration by all kidneys of apparently equal function and hence is at times disappointing, and as a test of renal function is not yet proven." It is our belief that whether or not a good shadow is demonstrated, a cystoscopic examination should be made as a check-up until we understand more of the physiology and excretion of opaque material by the kidneys.

CONTRAINDICATION

The contraindications to intravenous urography are generally well understood. They include those cases of diminished function in which there is an accumulation of nitrogen in the blood, evidenced by an elevation of the blood urea. Also, its use should be re- and unless there is stasis in the calices and stricted in the presence of liver and thyroid disease. The liver and skin are involved in the elimination of skiodan and iopax. Intravenous urography should not be used in suspected uremia cases and a preliminary blood urea should be made to obviate the dangers from an injection.

TECHNIC OF INJECTION

The same care should be exercised in the administration of skiodan or iopax as in any other intravenous solution. The mere introduction of 100 c.c. of any solution into a vein

may at times cause an untoward reaction. Coe has demonstrated that changing to saline solution during the injection will obviate unpleasant reactions during the introduction of the skiographic substance. Twenty grams of skiodan or 30 grams of iopax is dissolved in 100 c.c. of doubly distilled water and sterilized by boiling. Two burettes are used, one of which contains normal saline solution. One-half of the opaque solution is slowly injected, followed by a small quantity of saline solution. The remainder of the skiographic solution is then injected. A feeling of warmth and fullness in the head and lower abdomen is often experienced. McPeak has made the following observations: "In a number of cases after the administration of skiodan a sensation of cold was noted and some patients have had a definite chill, usually coming on from 30 to 60 minutes after the injection. This is the only objectionable feature in connection with the use of this drug, and these changes are transient and usually disappear within a short time. There is no local pain in the arm during the administration of skiodan as is frequently encountered in using iopax." The pain in the arm is the only objectionable feature about the administration of iopax, and as this disappears after the removal of the needle, it is thought to be the result of the local spasm of the vessel." Nausea and vomiting occasionally occur but soon pass off. We believe that careful preliminary preparation is necessary to obtain the best results. The patient is instructed to take two drachms of compound licorice powder the night before, eat a light meal that evening and take no food or fluids after midnight, and a cleansing enema in the morning. The patient should remain in the recumbent position during the study. Compression over the bladder area, using a rubber bag, aids in outlining the lower ureter by producing back pressure. The bladder should not be emptied. A cone will aid in outlining the renal area.

PHYSIODYNAMICS

Jarre, using a cinex camera table with fluoroscope, has made some very interesting observations concerning peristalsis of the kidney and ureter. He says that there is "in normal cases a kind of milking action, starting in the minor calyces and progressing through

the kidney pelvis and entire ureter to the bladder. Such a wave is halted for a short period at the uretero-pelvic junction, permitting of the formation of the so-called ureteral bulb; furthermore, it results in an interesting play of alternating contraction and distention between the calyces and kidney pelvis. Each calyx may function individually or independently. The ureter can undergo remarkable distention, laterally or longitudinally, with or without kinking. Infection inhibits functional phenomena in an advanced pyonephrosis which is practically functionless. A tumor creating marked structural changes results in impaired motility of the area involved and he hopes to be able to detect a tumor before it causes visual structural changes of the kidney on account of its interference with normal function in a similar localized area." These observations were made using retrograde pyelography. Intravenous pyelography should make these observations even more conclusive as the kidney is working physiologically and not artificially stimulated from the irritant. By using intravenous urography these observations should open up an entirely new field and conception concerning the emptying of the renal pelvis. At my suggestion Dr. Coe has made a number of serial ten-second-interval plates on some of these intravenous cases to demonstrate the fact that the renal pelvis is normally never empty. We have also shown the complete cycle of systole and diastole with the formation of the bulb of the pelvis initiating ureteral peristalsis. Our work confirms that of Jarre and Cummings, the difference being that they used retrograde urography and we employed intravenous urography, and we of course did not have their special apparatus for securing a large number of pictures.

SUMMARY OF CASES

Two patients in this study had no elimination of the opaque material after four hours time. One young girl, aged 16 years, had a bilateral hydronephrosis. Intravenous dye tests at different intervals showed a fair renal function but a blood retention test was not done. However, shortly after receiving the skiodan she had a chill and showed no elimination after four hours either in the kidneys or bladder. A specimen of blood showed marked retention of nitrogen following the

intravenous study. The second case was that of a man of 45 years who had been operated on for hypertrophy of the prostate and vesical calculus. The suprapubic fistula had not entirely healed and intravenous skiodan study showed no elimination either in the kidneys or bladder after three hours time. His renal function was normal, as shown by repeated dye tests, as well as by the blood nitrogen content.

An interesting case was seen in which the patient had a closed hydronephrosis of the left kidney. Repeated attempts to pass a catheter to either kidney were unsuccessful. An intravenous study was made, revealing a normal right kidney with complete absence of shadow on the left side. At operation an enormous hydronephrosis was found, containing 1,500 c.c. of uninfected urine. We have found that this method possesses a distinct advantage in cases of hydronephrosis and particularly in urinary lithiasis, as shown by the following two cases: A 35-years-old white woman had a large renal calculus removed three years ago. A flat plate taken recently showed a recurrence of the stone in the right ureter. We were unable to catheterize either ureter, and an intravenous indigo carmine test showed no elimination from either side in 20 minutes. An intravenous skiodan study revealed an enormous pyonephrosis of the right side with complete inhibition on the left. The other case was that of a young woman who had a right nephrolithotomy performed in another city. There was a recurrence of symptoms and the flat plate showed the presence of a large stone in the same kidney, together with an impacted stone in the opposite ureter. Intravenous indigo carmine showed a marked diminution of function on both sides. Intravenous urography showed the presence of an enormous pyonephrosis on the right side with complete temporary inhibition on the left side as a result of the impacted ureteral calculus. We feel that iopax or skiodan has its greatest indications in this type of case. Another interesting case was in a man aged 65 with papilloma of the bladder and bilateral pyonephrosis. The papilloma was destroyed by fulguration and as the patient continued to run a septic temperature an attempt was made to catheterize the ureters, which was unsuccessful under lo-

cal anesthesia due to contraction of the bladder. However, with spinal anesthesia, we were able to pass a catheter to both pelves and do an indigo carmine test. There was marked diminution on each side. On the left side near the site of the former papilloma a stricture was encountered in the ureter. An intravenous iopax study showed bilateral pyonephrosis with stricture at the lower end of the left ureter. We were able to make a satisfactory diagnosis in approximately half of our cases following this method, but believe that a cystoscopic examination should be made before an operation is performed.

CONCLUSIONS

Intravenous urography is a valuable adjunct to the diagnosis of urinary lesions. Its greatest value is in the preliminary detection of gross changes in the urinary tract, presence or absence of a kidney, relative amount of function present, and whether or not stasis is demonstrable. In demonstrating early lesions, as renal tumor and infection with no retention and mild disturbance of the urinary function, retrograde pyelography is superior to the intravenous method. In pediatric urology and in any condition which for technical or anatomical reasons cystoscopy is impossible it will enjoy its greatest popularity. It should be reserved for those trained in the interpretation of urological conditions and not as a general diagnostic procedure to be used by the profession at large.

Bibliography

- BRAASCH, W. F.: Intravenous Urography. Read before the American Roentgen Ray Society, Sept., 1930.
- COE, FRED O.: Personal Communication.
- CUMMINGS, R. E.: Cinex Camera Studies of the Urinary Tract. A New Method of Functional Investigation. *Jour. Urol.*, Oct., 1930, Vol. xxlv, No. 4, pp. 423-32.
- HERITAGE, K.: Intravenous Pyelography as a Test of Renal Function. *Lancet*, 1930, Vol. 219, pp. 132.
- HYMAN, ABRAHAM: Intravenous Urography in the Diagnosis of Urological Diseases of Childhood. *Surg., Gyn. and Ob.*, Vol. 51, No. 3, Sept., 1930, pp. 409-15.
- JACKES, LEOPOLD: Intravenous Urography. *American Jour. of Surgery*, Vol. VII, No. 2.
- JARRE, HANS A.: Urological Studies of Physiologic Phenomena. *Radiology*, Sept., 1930, Vol. 15, No. 3, pp. 377-94.
- KIDD, F.: Intravenous Pyelography. *Lancet*, 1930, Vol. 219, pp. 128 et seq.

KRETSCHMER, H. L.: Intravenous Urography. *Surg., Gyn. and Ob.*, Vol. 51, No. 3, Sept., 1930.

LICHTENBERG, A. VON: Intravenous Pyelography. *Radiology*, Dec., 1930, Vol. 15, No. 6, pp. 664-69.

McKAY, H. W.: Intravenous Urography. *Southern Medicine and Surgery*, July, 1930.

McPEAK, E. M.: Personal Communication, Jan., 1931.

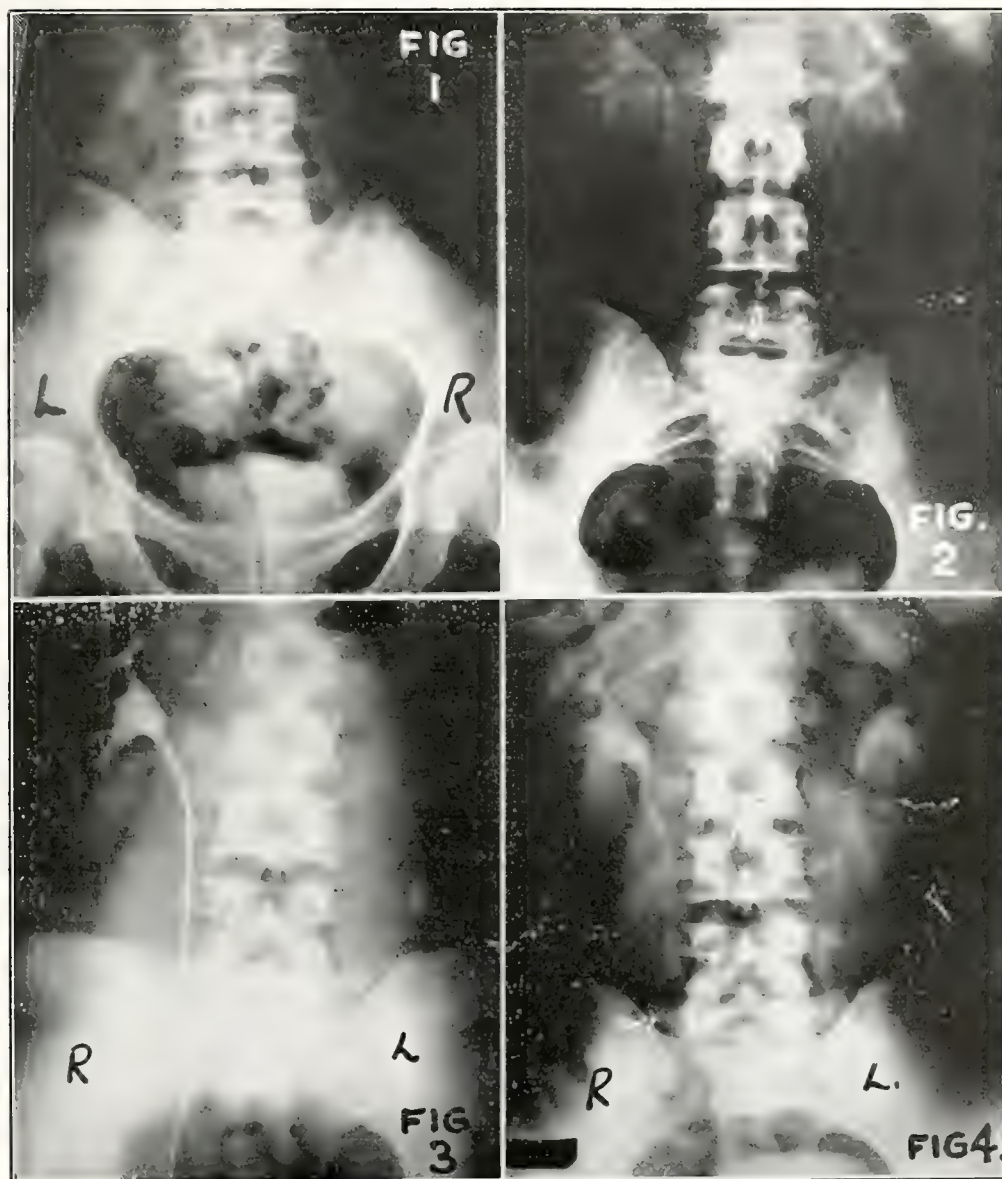


FIG. 1.—Intravenous urography showing complete absence of shadow in the right renal as a result of hydronephrosis, with normal left kidney shadow. Nephrectomy revealed complete destruction of right kidney.

FIG. 2.—Roentgenogram showing a normal renal pelvis with the ureteral bulb well-outlined.

FIG. 3.—Retrograde pyelogram showing retraction and distortion of upper calyx of right kidney. Hematuria and severe pain was noted on that side with diminished renal function. Pelvis in marked systole. Compare with Fig. 4.

FIG. 4.—Intravenous urogram showing both renal pelvises. Right kidney shows no evidence of retraction seen in preceding plate. This picture shows a normal right renal pelvis in diastole. Ureters well outlined.

MOORE, A. B.: Personal Communication, Jan., 1931.

SWICK, M.: Intravenous Urography by Means of Uroselectan. *Amer. Jour. Surg.*, Vol. VII, No. 2, pp. 405-14.

SWICK, M.: Intravenous Urography by Means of Sodium Salt of 5-Iodo-2-Pyridon-N-Acetic Acid. *Jour. Amer. Med. Assn.*, Vol. 95, No. 19, Nov. 8, 1930.

—Suite 214, Columbia Medical Building, Washington, D. C.

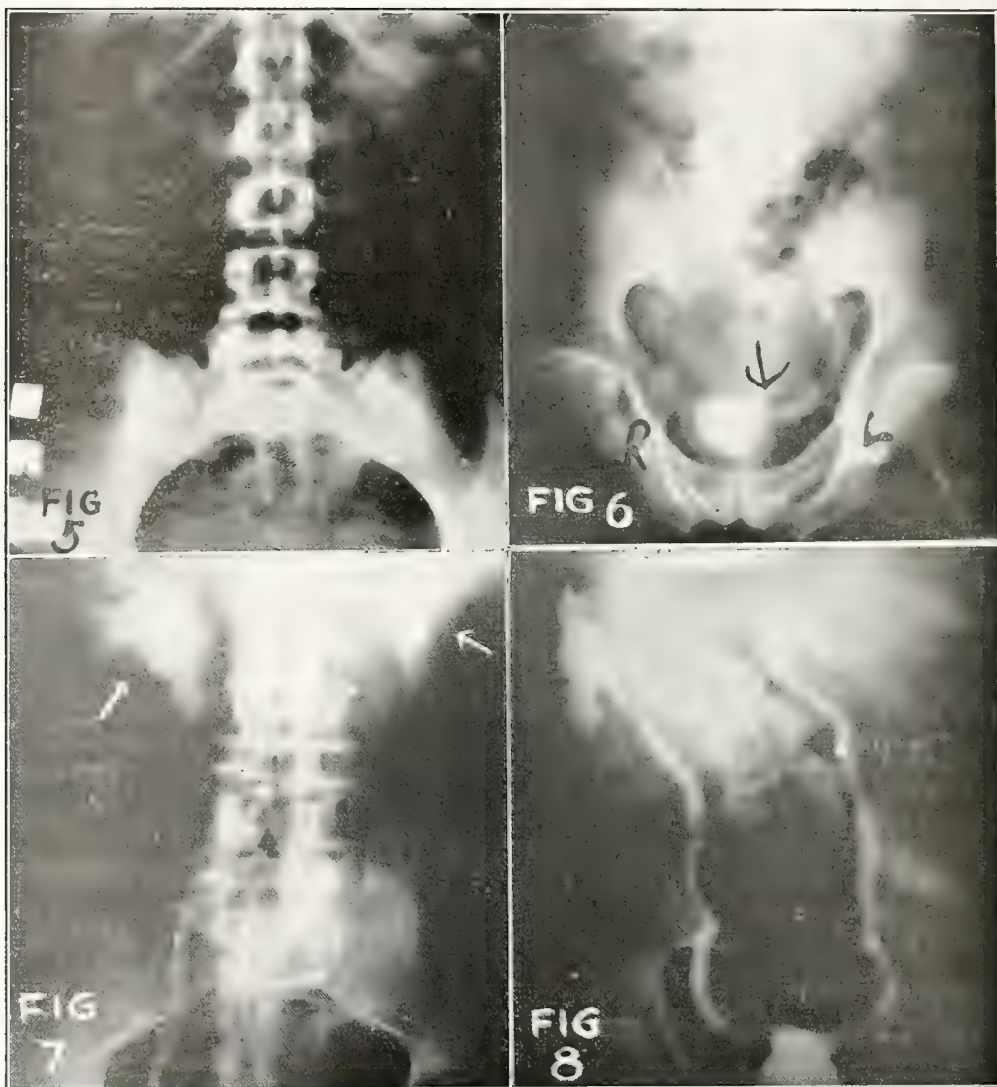


FIG. 5.—Intravenous urogram showing complete absence of shadows in kidney area over four hours' time. Patient had bilateral hydroureters and hydronephrosis.

FIG. 6.—Intravenous urogram showing dilated ureter on left side with stricture at site of arrow. Kidney shadows fairly well outlined. Note defect in bladder wall on left side due to tumor of bladder.

FIG. 7.—Marked bilateral hydronephrosis result of back pressure in prostatic. Ureters well outlined as was bladder.

FIG. 8.—Cystogram showing marked regurgitation of opaque medium into both ureters and kidney pelvis. Upper urinary tract very sharply outlined. Torsion of right kidney. Diverticulum of bladder.



FIG. 9.—Flat roentgenogram following intravenous skiodan shows tuberculosis of right kidney with double-pelvis kidney on left side. Also note filling defect of bladder at arrow due to tuberculous prostate.

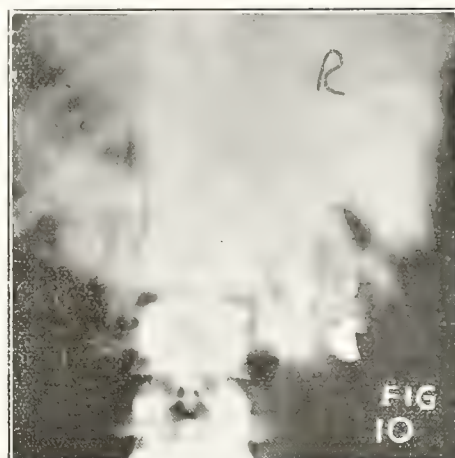


FIG. 10.—A recurrent calculus of right kidney shown, following intravenous injection of skiodan.

(Discussion with that of next paper)

Practical Problems in Urology*

SIDNEY SMITH, M.D., Raleigh, N. C.

Many urological problems arise because of a failure to appreciate certain atypical and infrequent symptoms and signs. Various cases deviate from the textbook description and present unusual findings. This results in a large group of patients receiving "shot-gun" prescribing and a barrage of vaccines, intravenous therapy and urinary antiseptics, simply because the diagnosis is not clear. Such empirical therapeutics should be abandoned and the patient given the benefit of a careful and thorough study before treatment is begun. Only in this way may we hope to raise our percentage of correct diagnoses and cures.

With the above facts in mind this paper

is presented in hopes that it may stress certain important diagnostic as well as therapeutic points, which may be of value in the future study of similar cases.

Some months ago an incident occurred that rather vividly illustrates the great importance of making a thorough physical examination in arriving at a correct diagnosis. A patient was sent to the hospital labelled acute appendicitis, and immediate operation advised. Had the examiner taken the time to do more than merely punch the patient's abdomen over McBurney's point, he would have discovered a very acute right gonorrheal epididymitis. This brings to mind a rather embarrassing moments that the writer ex-

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

perienced during his first year of internship. A Negro male was examined whose history and physical signs seemed to warrant a diagnosis of acute appendicitis. The staff surgeon was consulted over the phone about the case. Promptly the question was asked, "Did you do a rectal examination?" "No," was the answer, and to the writer's chagrin this revealed a large acute prostatic abscess.

Irritable bladder in women holds a high place in the list of complaints which the urologist, but more especially the general practitioner is called upon to treat. Urinary antiseptics may in some cases suffice, but usually the cause must be removed before the patient is cured. Several months ago a woman was seen who complained of marked bladder irritation, which resulted in an almost constant desire to urinate and severe straining. This patient had received the usual treatment for cystitis over a period of two months with no improvement. The upper urinary tract had not been considered as a possible source of constant infection to the bladder because there were no symptoms referable to renal involvement. However, careful study revealed a severe infection of both kidneys and infected teeth and gums as the foci. Prompt treatment directed to removal of these foci and pelvic lavages with 1 per cent silver nitrate solution resulted in rapid, complete disappearance of the patient's symptoms and the infection. Bladder irritation is only a symptom, but it is a warning that something is wrong. Renal tuberculosis often manifests itself first by frequency of urination. Recently a case was seen in which bladder irritation was the only symptom. Examination showed a definite right renal tuberculosis with involvement of the bladder.

Many cases of renal infection are due to some distant focus. The common ones are infected teeth, tonsils, sinuses, and intestinal stasis. Only a few weeks ago two cases of acute pyelitis were seen in which no definite focus could be found. Both patients gave a history of marked chronic constipation. Proper intestinal hygiene was outlined and carrier out. In a short time the infection cleared up with complete disappearance of all symptoms.

Many women, particularly between the ages of 20 and 30, complain of an irritable bladder, and discomfort in the urethra. Examination often reveals a chronic indurative urethritis and acute trigonitis. This may or may not be gonorrheal in origin. Prompt improvement is brought about by application of 5 to 10 per cent silver to these areas by means of the urethroscope. It is often of value to stimulate the urethral mucosa by massage with a sound in the urethra and a finger in the vagina.

Chronic backache is too frequently considered unimportant and hence a badly treated symptom. Especially are men from the ages of 20 to 45 prone to have backache from chronic prostatitis. Many cases do not give a gonorrheal history and so this cannot be taken as a criterion. The pain is of the low sacral type, worse in the morning and wearing off during the day. The diagnosis depends upon careful examination of the prostate and its secretion. Marked response is seen following massage of the prostate and irrigations or instillations of one of the many antiseptic solutions.

One must keep in mind the fact that backache may at times be the only symptom of extensive disease. Such was the case in a man of 67, who consulted the writer because of aching pain in the right lower flank. A tentative diagnosis of renal infection had been made because of the location of the pain, the presence of pyuria and some frequency of urination. Urinary antiseptics had been prescribed with no relief. Examination revealed a definite carcinoma of the prostate with metastasis to the sacrum and lumbar vertebrae (*Fig. 1*). Had a rectal examination been done such a blunder would have been avoided.

In women backache may be due solely to a kidney in faulty position. This depends of course upon the degree of obstruction to proper drainage from the kidney and the degree of the infection. A woman was seen who complained of constant aching pain in the lower right flank, and bladder irritation. She had been treated over a period of 10 years for "kidney trouble" with little improvement.



Fig. 1—Carcinoma of Prostate with Metastases to Sacrum and Lumbar Vertebrae.



Fig. 3—Right Pyelogram of Same Case as Fig. 2, Made in Upright Position Three Months After Operation. The Kidney is in Normal Position with Disappearance of Kinked Ureter.



Fig. 2—Right Pyelogram Made in Upright Position Showing Marked Ptosis with Hydronephrosis and Kinking of the Ureter.

Examination showed a marked ptosis of the right kidney, which had resulted in poor drainage and severe infection (*Fig. 2*). Nephropexy was carried out with an excellent result. Several months later a check-up study showed a good kidney in normal position (*Fig. 3*).

Many cases of renal pathology are overlooked because of unusual symptomatology and physical signs. It is the general practitioner who usually sees this type of case and it falls his lot to make the diagnosis. This often becomes difficult, but if some of these infrequent symptoms and signs are kept in mind it will clarify certain cases. Upper abdominal pain is sometimes the only prominent symptom of renal damage. The customary location being in the flank, this tends to divert the attention away from the upper urinary tract. Some time ago the writer was asked to see a man aged 28, who had complained of attacks of severe sharp pain just below the right costal margin for the past 18 months.



Fig. 4—Right Hydroureter (Sterile) Due to Aberrant Renal Artery.

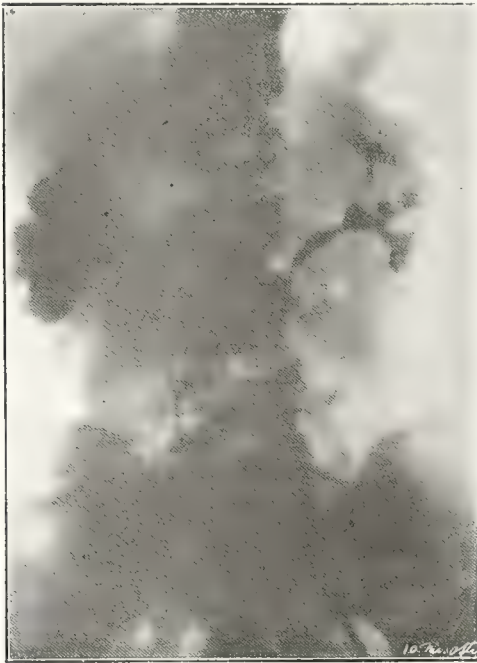


Fig. 5—Normal Left Pyelogram of Same Case as Fig. 4. Made Ten Minutes Later. Shows Marked Stasis in Right Pelvis After Removal of Catheter.

There were no urinary symptoms, and examination revealed only definite tenderness with slight muscular rigidity in the right upper abdomen. A tentative diagnosis of cholecystic disease had been made, but cystoscopy with a right urogram showed a poorly functioning kidney, which was the seat of a definite hydronephrosis (Figs. 4-5). At operation the obstruction was found to be an anomalous artery. The offending vessel was ligated and divided resulting in complete relief of symptoms.

Normal urinalysis is at times considered sufficient evidence to rule out urinary infection. Such was true in a patient who was referred for examination because of dull, aching pain in the right flank. The urine had been examined and found normal. The only positive finding was slight tenderness in the right costo-vertebral angle. Cystoscopy and a right urogram showed a complete blockage of the kidney, and the presence of 30 c.c. of dirty infected urine in the renal pelvis. Catheterization of the kidney and removal of the residual urine relieved the pain immediately. On three occasions the renal pelvis and ureter were lavaged with 1 per cent silver nitrate solution. The urine has remained clear and the patient has been free of symptoms for several months. A subsequent check-up urogram showed a marked decrease in the size of the pelvis and a fairly good kidney function.

Abdominal tumors often present a very puzzling picture. This is in some cases due to failure to consider renal tumor as manifesting itself by an abdominal mass. Recently the writer was asked to see a man aged 51, who complained of a large mass in the right upper abdomen. The mass was noticed by the patient 18 months ago, and a diagnosis of an enlarged liver had been made. The tumor had gradually increased in size and filled two-thirds of the abdomen. The history dated back to 1918 with attacks of renal colic, hematuria and the passage of two small stones. Cystoscopic study revealed a large cystic tumor of the right kidney (Fig. 6). At operation the tumor was found to be malignant and weighing 2480 Gms.



Fig. 6—Right Pyelogram of Malignant Cystic Renal Tumor. The Kidney Has Been Displaced to a Position Just Above the Left Kidney.



Fig. 8—Right Pyelogram of Same Case as Fig. 7. Showing Large Hydronephrosis. Minor Calyces Still Preserved. Pephrectomy. Left Pyelogram Normal.



Fig. 7—Stone in Pelvis of Right Kidney.

Another similar case of abdominal tumor was seen several months ago. The patient was 54 years of age, and presented a large mass in the left upper abdomen. Symptoms of marked weakness, anemia and hematuria began two years previously. It was considered as a tentative diagnosis that the mass was a large spleen and the condition was splenic anemia. Cystoscopy and a left urogram corrected this assumption and showed a large polycystic kidney. An interesting clinical feature of this case was the ability of the patient to be up and about with practically zero phenolsulphonephthalein and indigo-carmin elimination, and creatinin 9.6 mgms. and nonprotein nitrogen 262 mgms. per 100 c.c. of blood.

Marked renal damage may manifest itself by very few symptoms. Too much stress cannot be placed on this fact. Especially is renal stone likely to be silent and produce marked destruction of the kidney. An inter-

esting case came under the writer's observation of a man, who complained only of blood in the urine and slight flank discomfort. These symptoms had been present for months, but had not been of sufficient importance to alarm either the patient or his physician. On urologic study a large hydronephrosis with a marble-sized urate stone was found (*Figs. 7-8*). At operation the kidney was found to be

badly damaged and nephrectomy was carried out.

In conclusion, the writer would sincerely urge against "pop" diagnoses and treatment based on an unsound brand of therapeutics. Make every case an individual study, consider the unusual and infrequent symptoms and signs and really try to make a correct diagnosis.

(Discussion with that of preceding and succeeding papers.)

An Evaluation of Uroselectan and Skiodan As Used in Intravenous Urography*

HAMILTON W. MCKAY, M.D., Charlotte, N. C.

The problem of intravenous urography, *i.e.*, the demonstration of the urinary tract by a contrast medium injected into the vein, has attracted the attention of urologists, roentgenologists and all others trying to learn what is causing symptoms in this region for the past few years. About 17 years after Voelcker and von Lichtenberg gave to the profession ascending pyelography, experiments were begun to perfect a contrast medium which could be injected into the vein or given by mouth, that would show the urinary tract in its physiological state, by means of a simple radiogram.

Too much credit can not be given Rowntree and his co-workers, who experimented with sodium iodide by mouth and intravenously in an endeavor to demonstrate the urinary tract by excretion urography. As is well known to most urologists, these attempts were only partially successful, *i.e.*, the bladder showed satisfactorily while the other parts of the urinary tract showed only faintly. About this time the German authors, Rosenstein, Hryntschak and others, were working along the same line with rather indifferent results. It should be said to the credit of Hryntschak that he made as many as 50 preparations and carried out about 150 animal

experiments. Rosenow advanced a step forward when he injected urea with sodium iodide intravenously. His method produced satisfactory pictures of the urinary tract, but the injection was followed by dangerous reactions.

Von Lichtenberg and Swick in the past year have advocated intravenous urography by means of a preparation of high iodine content, called uroselectan. The pictures obtained by the intravenous injection of this drug are on the whole satisfactory. Its injection is practically without reaction and is harmless to the patient.

The most recent drug advocated for intravenous urography, skiodan, is said to be even more satisfactory than uroselectan. Our limited experience with skiodan leads us to believe that shadows cast in the urinary tract are equal to uroselectan—and its administration is easier, the quantity given about one half.

The object of this discussion is to try to properly evaluate uroselectan as an intravenous urographic medium and to emphasize, first the necessity of proper selection of cases and, second, the need to properly classify urological conditions in which the drug can be used to advantage in arriving at a proper

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

diagnosis and, in some instances, to suggest the proper treatment.

Although our experience with intravenous urography has been limited to a comparatively few cases, about a dozen in all, we believe the profession as a whole, both medical men and surgeons, will receive great benefit from its intelligent use in properly selected cases.

COMPARISON OF THE TWO METHODS

Generally speaking the introduction of pyelographic media by the catheter injection method requires special technical skill with the cystoscope. Therefore, the urogram is dependent on two factors, namely, technical cystoscopic skill and the reaction of the tissues, kidney, bladder and ureters, to a somewhat irritating contrast medium injected: this medium is usually sodium iodide, which is now used by most urologists. As long as these two factors are as variable as they now are, the proper interpretation of urograms made by the ascending injection method will remain extremely difficult. Again, with these factors varying, it is difficult, or almost impossible, to properly standardize pyelography done with the catheter injection method.

By the new intravenous method of urography, if a standard contrast medium is injected into the vein and is excreted by the kidneys, such a procedure becomes physiological. It therefore should follow that with uroselectan or some improved drug we will be able to eliminate many of the technical difficulties which we are now heir to under the old method. Such technical difficulties are constantly met in a study of the mechanics and behavior of the ureters and we believe it is in this field that intravenous urography will prove of greatest value.

SELECTION OF CASES

In our judgment intravenous urography should not be used routinely in urological diagnosis. With our present knowledge we can not consider the urogram made by the excretion method as equal to the picture made by the catheter injection method. Therefore, we do not believe at this time that the new method can replace the old one. On the other hand, we believe that in properly select-

ed cases, intravenous pyelography furnishes information which can not be obtained by retrograde pyelography. In border-line cases often the information obtained is of such importance as to make the diagnosis and indicate the treatment.

INDICATIONS FOR INTRAVENOUS UROGRAPHY

1. That rather small group of patients who, for one reason or another, should not be examined cystoscopically or will not submit to retrograde pyelography on account of the resulting pain, discomfort and reaction. In such a group, we place the feeble patient and the extremely apprehensive and nervous individual who really has not courage or stamina to submit to any form of instrumental examination. To these people we are now able to offer a very welcome substitute which will give the examining physician valuable information and will also satisfy his patient.

2. Then we have absolute indications for intravenous urography if based on anatomical, pathologic or technical grounds. We include in this group the cases where cystoscopy, ureteral catheterization, or the catheter injection method, is either impossible or inadvisable. In this group we enumerate the following conditions:

- (a) Small contracted bladder
- (b) Certain types of hypertrophy of the prostate.
- (c) Severe bleeding from the bladder
- (d) Certain types of fistula
- (e) The inability to locate the ureteral orifice on account of severe inflammation or the inability to catheterize the ureter on account of spasm or ulceration.
- (f) In stenosis or obstruction in the ureter.
- (g) In cases where a urogram is indicated but, for fear of spreading the infection or producing severe reaction, as in advanced tuberculosis, retrograde pyelography is contradicted.

3. In the differential diagnosis of ureteral stricture.

4. To solve the problem of kidney function and the anatomical state of the ureters in cases of ureteral transplantation into the bowel.

5. In pediatric urology, where the physician is not friendly to cystoscopy in infants and children and where parents will not permit retrograde urology.

The Procedure Is Dangerous:

1. In patients who are especially susceptible to iodine

2. In active and advanced tuberculosis

3. In pregnancy and where hyperthyroidism is suspected. The actual intravenous injection is not always without expression of discomfort from the patient, which usually consists of pain at the site of injection, flushing of the face and thirst.

The drug should be given slowly and cautiously. The over-enthusiastic use of uroselectan by the profession in general is to be discouraged. Such indiscriminate use will not only lead to many false diagnoses but will tend to retard progress in the proper evaluation of this method.

We herewith submit three brief case reports which will illustrate how intravenous urography can be used to great advantage in arriving at a diagnosis and also in suggesting the proper treatment.

CASE REPORTS

A 58-years-old white man, feeble and emaciated, partially recovered from chronic retention of urine caused by elevation of the trigone by diverticula. The patient's condition had been diagnosed and he had been hospitalized with catheter drainage preparatory to operation. His general condition was so much improved by continuous drainage and irrigation of the bladder that he decided to remove his retention catheter and go back to work, which he did. On being admitted to the hospital the second time he had typical uremia complicated by a large periurethral abscess, and when we decided to make the last study he was not in good condition for cystoscopy. Previous cystograms had given us satisfactory pictures of the bladder diverticula, but had revealed nothing as to the condition of the kidneys or ureters. Uroselectan was given and in both the 15- and 40-minute pictures showed a dilatation of the pelvis of both kidneys, with dilated ureters, the result of back pressure from chronic retention of urine with infection of year's standing. It was not practicable to examine by the cystoscope or to inject this patient's ureters and kidneys, and the additional information obtained by the intravenous injection of uroselectan has caused us to abandon the proposed operation of diverticulectomy.

A 39-years-old white man with a large staghorn

calculus filling the pelvis of the left kidney. The patient had a congenital defect of the opposite kidney, with a stricture of the lower third of the ureter which precluded the injection of sodium iodide for uretero-pyelogram. At operation, the left kidney was twice the normal size with a stone filling the pelvis of the kidney and extending into the lower middle calyces. A lower pole nephrotomy was done and when the stone was removed it was found that there was a large abscess in the upper pole. The uretero-pyelogram made by the injection of sodium iodide failed to show this abscess cavity, while the urogram made by the intravenous injection of uroselectan showed the abscess cavity well defined. This observation was made by a comparison of the pictures made by the two methods after operation. No evidence of uroselectan was seen in the opposite kidney or ureter in either of the three plates made. This led us to conclude that the patient to be operated upon had only one good kidney, namely, the one with the staghorn calculus, which kidney we did nephrotomy on. We believe that as we know more about the interpretation of pictures made with uroselectan the above type case illustrates one field for its future usage.

A 54-years-old white woman, first seen October 1928. The patient gave history of having had a stone removed from the left kidney and having had, since that time, repeated attacks of left-sided kidney colic and passing small calculi. Examination (Oct. 1928) revealed small stones in the left kidney but a normal function and normal ureter. The patient returned Sept. 17th, 1930, about two years after the first examination. She had had several attacks of kidney colic in this time and the attacks were now more frequent and practically incapacitating the patient. Cystoscopy was done and an attempt to catheterize the left ureter was unsuccessful, obstruction being met on each attempt just behind the bladder wall. We could get no instrument past the obstruction. The patient was kept in the hospital a week or 10 days and numerous attempts made to dislodge what was evidently a small stone. Uroselectan showed a markedly dilated kidney and ureter. This examination enabled us to conclude that the left kidney was practically destroyed and that nephrectomy was indicated. Operation was performed and the diagnosis made by intravenous urography was confirmed.

CONCLUSION

We believe the introduction of uroselectan has made intravenous urography practical, useful and a splendid substitute, or auxiliary, to catheter urography in properly selected cases. At this stage of its development, we do not believe it can replace the cystoscopic injection method, but we prefer to look upon it as a much needed refinement in the diag-



FIG. 1.—Male, age 58, multiple diverticula of the bladder with obstruction. Uroselectan gave final evidence of hopelessly low kidney function and was the determining factor that no operation was indicated.

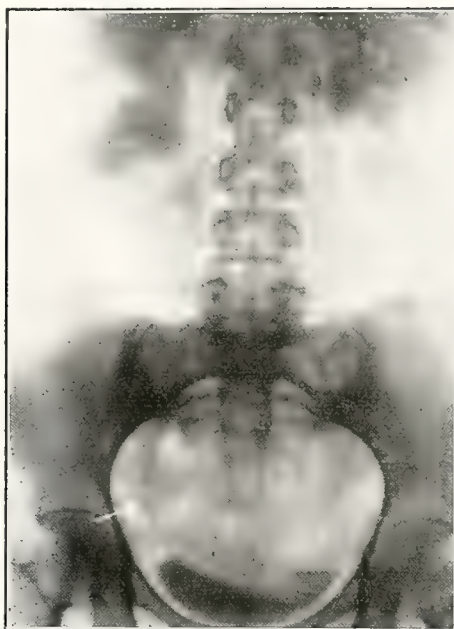


FIG. 3.—Female, age 48. Impassable obstruction. Stone in lower third of left ureter. Uroselectan demonstrates destruction of the kidney. It was the determining factor in advising nephrectomy.



FIG. 2.—Male, 38. Uroselectan deposited in well defined abscess at upper calyx—complicating "staghorn calculus" not shown by retrograde pyelography. Abscess demonstrated at operation.

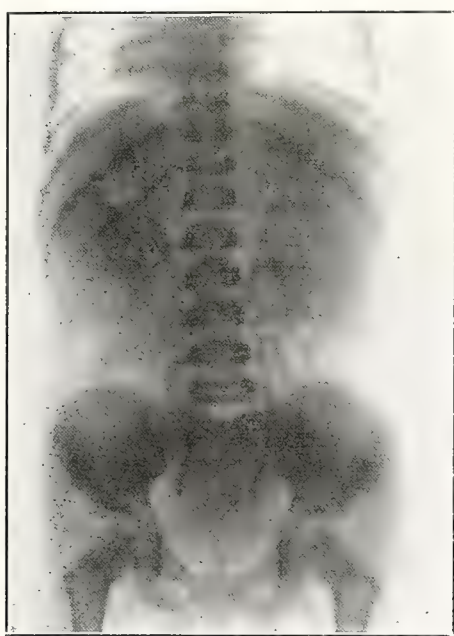


FIG. 4.—Female, age 8. Skiodan gives comprehensive picture of the pathology—that of a chronic recurrent pyelonephritis of long standing.

nosis of difficult cases. To the careful physician who is familiar with roentgenological examination of the urinary tract it furnishes a method whereby he can study his own cases without the technical difficulties of cystoscopy.

We consider the introduction of uroselectan then, as marking the beginning of a new era in urological diagnosis, as the first step toward an inevitable perfection of intravenous urography.

References

SWICK, M.: Intravenous Urography by Means of Uroselectan, *American Journal of Surgery*, 8:405-414, (February) 1930.

BEER, EDWIN: Uroselectan as an Intravenous Pyelograph, Ureterograph and Cystograph Medium (Swick) *The Surgical Clinics of North America*, 10:441-450, (June) 1930.

ZIEGLER, JOSEPH and KOHLER, HANS: Peroral Pyelography, *Medizinische Klinik*, 26:10-11, (January 3, 1930).

BERGERHOFF, W.: The Employment of Intravenous Pyelography in Internal Medicine, *Medizinische Klinik*, Berlin 26:32-235, (February 14, 1930).

WERWATH: Intravenous Pyelography with Pyelognost, *Zentralblatt für Chirurgie*, Leipzig, 57:227-228, (January 25, 1930.)

ALYEA, DR. EDWIN P.: Durham, N. C., from the Department of Urology, Duke University, School of Medicine, *Southern Medicine & Surgery*, (Sept. 1930).

McKAY, HAMILTON W.: Charlotte, North Carolina (Editor, Urological Section, *Southern Medicine & Surgery*) Intravenous Urography (*Journal Southern Medicine & Surgery*, July 1930).

DISCUSSION

(Papers of Drs. Stirling, Smith and McKay discussed together.)

DR. L. T. PRICE, Richmond:

I am quite sure that the society has appreciated the papers we have just heard. They illustrate the advancement that has been made in the urological line during the past few years, which is much more than in any previous three or four years that I can recall.

The question of uroselectan is a new one. It has been in use we might say just about a year, and I think it is going to add a great deal to the solution of a great many cases that heretofore were probably undiagnosed or diagnosed with difficulty. The use of uroselectan probably is rather limited, as was brought out by Dr. McKay; but it still, I think, is going to be used more and to better advantage.

In Dr. Smith's paper he called attention to some very unusual and interesting cases (which of course are the ones we are greatly concerned about), in

which the average surgeon by the aid of routine laboratory work and x-ray work can make the diagnosis of stone in prostate and other conditions. However, it is the complete examination to which I wish to call your attention, that should be done in every urological case—not only the examination of the urine and blood but a complete study of the urological tract, meaning when you do a cystoscopy if you are not able to do all that you think is wise at one sitting to repeat it two, three, or four times if necessary, certainly ascertaining the functional output of each kidney, together with blood chemistry. The x-ray examination is necessary in every urological case, either previous to or in conjunction with, cystoscopic examination. I have never found any trouble from a double pyelogram, using sodium iodide solution; I have never had any evil results. I can more intelligently arrive at a conclusion with the double pyelogram, rather than doing a single one and attempting to get another later.

The cases Dr. Smith presented are most of them unusual and interesting. I do not know of anything that causes more difficulty in diagnosing than anomalous vessels around the pelvis of the kidney obstructing the ureteropelvic junction and causing obstruction and stasis. This condition is usually hard to recognize by other means, but with a ureteropyelogram it is recognized rather easily.

I do not want to let this opportunity go by without calling attention to syphilis in men with enlarged prostates. Often a case is referred for cystoscopic examination because of pus and blood in the urine. If the prostatic and physical examination have overlooked it, you will find cystoscopic examination necessary because you have overlooked something comparatively simple in making extensive examinations.

Cases of focal infection are very interesting. I do want to call attention to pyelitis and pyelonephritis, especially as resulting from infection of the teeth and tonsils. I find it is very difficult to clear up cases of pyelitis and pyelonephritis without clearing up the focal infections.

DR. A. I. DODSON, Richmond, Va.:

These are very interesting papers to all of us and bring to our attention what is being done and the more recent advancement in urological study. Thinking of the disadvantages of retrograde pyelography, principally the discomfort and the dread that people have of this procedure, when uroselectan was first presented many of us hoped it would take the place of the necessity of injecting contrast substances retrograde up the ureter. But all of the literature that we see on the subject indicates the contrary; in the studies made by everyone who has had an opportunity to do a large amount of this work they wind-up by saying that the findings will frequently have to be checked up by the retrograde method. Nevertheless, the procedure has a very

definite and real place in urological diagnosis if properly carried out. I believe that one of the largest fields is going to be found in its use by the roentgenologist. I find (I believe most of us do) that a very large percentage of our urological patients come to us in that way. The patient complains of pain in the kidney or ureteral region, and the doctor sends him for an x-ray picture. The picture is negative. Of course, the roentgenologist may advise that a further check-up be made or a cystoscopic study be made; but sometimes, if the patient and doctor find there is no stone, the case as a urological one is passed up, particularly if there is no stone in the ureter. Now, I believe the wide-awake roentgenologist, when the patient presents himself, will have no trouble in inducing him to go through an examination with uroselectan and then having further check-up if needed. I had the opportunity of going through a large number of plates in Dr. Hodges' office this morning, and its use seemed to be well worth while in the clearing up of obstructions in the ureter and the checking up of shadows. I remember a case in which the shadow was shown definitely to be outside the kidney. The patient had very definite pain, which was thought to be kidney pain, and probably should have further study; but this showed a shadow definitely outside the kidney and ureter.

It seems to me that, so far as urology is concerned, uroselectan is to be used in those cases in which retrograde catheterization is impracticable, and it is certainly going to serve to bring to our attention a number of patients needing treatment who heretofore have been passed on because stones were not found.

Dr. Smith brought to our attention or stressed a thing that all of us have been stressing for a long time and which can not be emphasized too often—the advisability of thorough study and proper diagnosis before treatment is begun.

DR. A. L. GRAY, Richmond, Va.:

I have recently had the pleasure of seeing demonstrations, operative and otherwise, by two of our leading urologists, Dr. Braasch and Dr. Branson Lewis. What the essayists this afternoon have said is entirely in keeping with their views; that is, that neither one will supplant the other but that they are adjuncts to each other.

Dr. Stirling referred to a matter which I had the pleasure, also, of seeing demonstrated by Dr. Jaere in his cinematographic films, not only of the urinary tract but of the bronchi, in which he showed peristalsis in both locations. I have maintained for a long, long time that a single film of a retrograde pyelogram is not sufficient but that it is very fallacious; and since it has been brought out so clearly that we may have peristalsis, not only in the entire pelvis of the kidney but in the ureter, temporarily emptying either the whole or a part of the urinary tract, we may make single films, and

get nothing and come to a false conclusion about some portion of the urinary tract. For that reason I have advocated all along a fluoroscopic examination during the injection. If we may supplant the fluoroscopic by a better method of rapid serial roentgenograms of the urinary tract, that I shall gladly welcome. It is so easy to see some portion of a kidney pelvis appear abnormal, due to a spasm, while another portion looks entirely all right, and a minute later the unfilled or deformed portion fill as well as the portion that was previously well filled.

DR. J. H. HIDE, Pongoteague, Va.:

At the request of Dr. Smith I am to make a few remarks on his paper. I believe he struck the keynote when he emphasized so much the very great importance of careful diagnosis before we begin any work. The diagnosis sometimes, of course, is an extremely difficult thing to make in some of these cases, but a great many of them can be made and made easily, by most of our general practitioners, if they will study the simpler methods, well and master them before we undertake the more complicated methods. I have seen some cases diagnosed as cystitis and treated as cystitis when really there was a malposition of the uterus and that organ was pressing on the neck of the bladder, and just by simply restoring the uterus to its proper position what was supposed to be the cystitis disappeared. We find that simple measures oftentimes cure a complicated case. Of course, I am thoroughly in favor of all of the most scientific measures when we are unable to make a diagnosis in any other way, but the general practitioner ought to be warned and they ought to be encouraged to make more careful simple examinations before resorting to highly technical and expensive examinations. Sometimes, of course, we have very difficult problems to contend with. I had made a diagnosis in a good many cases of appendicitis correctly for some time and felt very much flattered after the surgeons had opened the abdomen, and I felt I could diagnose a good many of those cases correctly. Then I made a diagnosis correctly of a good number of cases of renal colic and felt I was skilled in that line. But about the time I had flattered myself on being skilled in these lines I was called one night to see a young lady in a prominent family who was suffering a great deal with a cystic tumor in her right side. She had some fever and a great deal of pain. The abdomen was pretty rigid, and for a little while I thought she had appendicitis. Then I looked into the case again, and it looked as though it might be renal colic on the right side, because she had rather persistent vomiting and seemed to be relieved after she had vomited, and I found she had a good deal of difficulty in urination. The whole abdomen was rigid, and sensitive on the right side, with a good deal of dis-

tension. After thinking over it I told the family it was an acute inflammation in the abdomen and an operation must be done. On operation we found an acute inflammation of a cyst in the right side. Nobody knew it had been there. The cyst was pressing on the ureter, and there was obstruction there. So you see we have some right complicated things to decide sometimes along this line. I believe, though, if we could get our general practitioners to make careful examinations and to learn to train their fingers a little more carefully in examining the pelvis and to look at the symptoms from a common-sense standpoint, we would find that a great many cases could be diagnosed without so much x-ray work, although we ought to use that when we can not do any better.

DR. A. J. CROWELL, Charlotte, N. C.:

Just a word with regard to uroselectan. It undoubtedly has its place in urology, and its place has been well pointed out by Drs. McKay and Stirling. There is no use in repeating the indications. I want, however, to enter a word of warning against its use. We have had two marked reactions from its use, one a very severe reaction last Saturday. Every dose that has been given in our clinic has been given by Dr. Todd, and those of you who know him know how careful and accurate he is about everything. He knows the importance of giving it in the largest veins he can get at and as slowly as possible, watching his patient very closely. The first reaction I did not see myself, but I did see the one that we had last Saturday in a little girl nine years old. She had a bladder capacity of 30 c. c. Cystoscopy and ureteral catheterization were out of the question. Dr. Squires worked on this case for 10 days or two weeks and, suspecting tuberculosis, he decided he would use uroselectan. Dr. Todd gave this girl about half the dose that ordinarily should be given a person of her age, and while it was being given she complained of being very hot and broke out in a rash. Her eyes were swollen almost shut, and her lips became very thick. It was almost impossible to feel her pulse. It was very rapid. Todd injected adrenaline and in a little while brought her back, but the itching came back again, and he gave her adrenaline three different times. They were certainly frightened; we were all frightened. Dr. Squires, who had charge of this case, after we had gotten through with the moments—a good many moments—of excitement, came to me and said: "Enter a note of warning against uroselectan. There are some people who have an idiosyncrasy for it, and it is a dangerous drug."

With regard to Dr. Smith's paper, I want to say when there is prolonged undue frequency of urination, with pain on urination, with pain in the back, it makes no difference whether or not there is pus in the urine; there is pathology. It may be in the

nervous system, and it may be necessary to call a neurologist; but if you investigate very, very thoroughly you will often find you have a kink in the ureter. You may have ptosis, you may have hydro-nephrosis without pus in the urine. I think pyelography very essential in prolonged frequency of urination. If you do not find pathology in the urinary system, get hold of a neurologist and he will work out the case for you.

DR. JOSEPH GEISINGER, Richmond:

I was very thoroughly impressed by the latter part of Dr. Smith's paper and regret that I did not hear enough of the first part to justify me in discussing it. Therefore I shall limit myself to the use of uroselectan. I think it would be better for me to refer to our experience at Stuart Circle Hospital, for it is only by this sort of exchange of ideas that we can ever get at a rational conception of the indications for this drug. I have in my own personal records about 25 cases, and Dr. Bryan has done some, so we have somewhere between 30 and 40 cases in which this drug has been used. As a result we have come to some tentative conclusions and I agree with Dr. Stirling that the ideal thing would be to use it as a preliminary to urological work in general. As a matter of fact, we have attempted to do that among those patients who can bear the expense of the procedure. We feel, from our experience, that in many of the cases in early life and middle life intravenous urography will produce plates that are very satisfactory and very informative. We believe, however, that in any period of life and in any case you are liable to miss the refinement of detail which you can get in retrograde pyelography—for instance, as a means of diagnosis of those conditions which manifest themselves by minor changes in the calyces. In the latter period of life I think this drug has been a failure almost without exception. We have gotten extremely poor results. In children its value is obvious and need not be mentioned further. To me one of its very important uses is in the presence of calculus or other occlusion of the lower ureter which introduces the puzzling problem of whether to operate for the obstruction below or a possibly destroyed kidney above. In this type of case it will frequently be a guide to the proper procedure.

I was much shocked by Dr. Crowell's report of reaction. I am glad he submitted that, because it will act as a warning to me. We have had no reactions; and Dr. Hodges, in his study of other doctors' patients, has reported no reactions; and perhaps we might have gotten a bit unconcerned about this possibility.

I shall mention one case which might be of particular interest, a patient about 60 years of age, upon whom intravenous urography was done. He had a fairly good ureteropyelogram on one side and none at all on the other side. This would lead one to

the conclusion that one urinary tract was functioning and disposing of the drug, with no function on the other side. As a matter of curiosity I made a cystoscopic examination in this case and found equal and normal function on both sides.

DR. D. H. SMITH, Pauline, S. C.:

I wish to make some general remarks on the distinguishing characteristics between nephrolithiasis and appendicitis. I have in mind right now a case that I treated several years ago which proved to be a kink in the ureter; it was operated upon for acute appendicitis. It was revealed by the roentgenologist that it was a case of complete transplantation of the viscera. I referred the case to our president here, who did a complete urological examination; and it was discovered that this patient, a woman 21 years of age, had a kink of the ureter. She had rather bad nervous manifestations and was really in a bad fix following the operation for appendicitis. It is all right to take out the appendix; but it is better to take it out after it is involved. I referred the case to Dr. Lyles, who treated her for the kink in the ureter, and the condition cleared up promptly. So it is very easy to fall by the wayside in considering the symptoms of appendicitis, kink in the ureter, nephrolithiasis, and pyelitis. A case that I treated several years ago which proved to be a stone in the ureter one inch from the vesical orifice, manifesting very characteristic symptoms of appendicitis. But I referred the case to a urologist, and it was revealed that it was a well marked case of stone in the ureter one inch from the vesical orifice. The ureter was dilated and the stone removed very promptly, and the man has had no trouble since.

DR. L. D. KEYSER, Roanoke:

About ten years ago, one afternoon in the urological department of the Mayo clinic we saw the first intravenous pyelogram. Dr. Osborne had been giving sodium iodide intravenously in the treatment of syphilis, and the dosage ran up as high as 100 to 200 grams. Dr. Rowntree became interested in the possibility of visualizing the ureter and pelvis. The work was first done in dogs and later in human beings, with the Rosenow experiments—Rosenow of the Mayo clinic.

Undoubtedly, as Dr. McKay and Dr. Stirling brought out, this marks a new era in urology. There are a few pitfalls, however, that occur in private practice that seem to be borne out by the experience of Braasch and others. Tuberculosis of the kidney is a disease that very frequently depends for its diagnosis on minor changes in the calyces—that moth-eaten appearance. When there is a suspicion, certainly those cases should be checked by retrograde pyelography, likewise tumor, with its filling defect, should be checked by retrograde pyelography.

Dr. Gray mentioned skioscopy, renal, or so-called pyeloscopy, fluoroscopy. Jones and Flecker of Melbourne have been making experiments in this method and it has also been used clinically. Incidentally, we have come to learn a good deal during the last year about pyelograms, ureteral kinks, phases of uretero-pelvic systole and diastole and the like. Bum-pus and Thompson quite frequently found that a patient, on being told to take a deep breath, develops a ureteral kink by pushing the kidney down.

All these methods and factors must be taken into account and correlated in making diagnostic interpretations. It is a good thing to hear about these things.

DR. FRED HODGES, Richmond:

In the early stages of intravenous cystography we had a good many reactions, all of which cleared up under adrenaline. I should like to know if this drug may be seriously dangerous after being given. 95 per cent of it is supposed to be eliminated in the urine in a short time. I should like to know if there is any information in that line. A prominent New York urologist told me he had had several reactions and since then had been very careful to use redistilled water, since which time he had not had any reactions.

DR. KEYSER, Roanoke:

I should like to add this to my previous discussion; I have had one reaction from uroselectan. The patient had normal function. Upon giving it with redistilled water, after two hours this patient had a chill and developed fever to 103, which persisted for 24 hours. The patient had some signs of iodism. The leucocytes dropped to about 2,500; on admission they had been about 7,000 or 8,000.

The skiodan I have not used, but it is supposed to be a much more stable preparation and equally efficacious.

DR. J. B. BULLARD, Richmond:

In the discussion of this paper two very important points have been brought out. Dr. Hodges has opened an avenue for my discussion by suggesting that some attempt be made to explain or remark upon this urticarial condition on injection of the iodide. Undoubtedly he has had what we call allergic manifestations or anaphylactic shock. We do not expect these conditions to produce temperature or marked increase of blood pressure. We who are doing allergy and are interested in it have long ago learned that when you begin to give anything (it matters not what) into the vein in a person that we call the allergic individual you had better proceed most carefully. There have been reported in the literature about thirty deaths from anaphylactic shock or allergic shock. These deaths are explained now, and you can not conceive of how

many have happened that we called fulminating edema or something else, which no attempt was made to explain. Now, in the absence of the usual pathological findings in urinary disease, the allergic survey is absolutely essential. If you have pus, have temperature, have chills and fever and blood, it usually means an infection; but the urologist very often sees a sensitive bladder that has no pathological evidence of disease. An allergic survey in those cases will certainly pay.

PRESIDENT LYLES:

Is there any further discussion? Dr. Smith, will you close?

DR. SIDNEY SMITH, closing:

I have nothing further to say but wish to thank these gentlemen for their very kind discussion.

DR. MCKAY, closing:

To briefly try to answer Dr. Hodges' question, I was very much interested in the observation of Dr. Crowell. To be exact, I used uroselectan in eleven cases and Skiodan in two. I have had two reactions that amounted to a mild chill, which I attributed to faulty technic—to errors in my own technic in giving the solution; probably the temperature was not right, or there was some other chemical from the tube. I believe Von Lichtenberg and Swick administered uroselectan in well over a 1,000 cases with one death; a cardiorenal case which was autopsied, and they could give no reason for death from the drug.

In closing, I believe the drug is of the greatest value in eliminating the mechanic, differentiating contractures of the ureter from stricture, and in the person who is unfriendly, at the present time, to cystoscopy in children. I feel that in those two fields at the present time the drug is a great adjunct to our present methods.

DR. STIRLING, closing:

One of the points in reading this paper was to endeavor to bring out a free discussion to get all of those interested in intravenous urography to give their experiences. I think it is very fortunate that we have heard from so many urologists, and have obtained so many different slants on it.

I have used intravenous pyelography in about 38 cases. It has been used at different hospitals in Washington in well over 100 cases, and there has been no report of any serious reaction such as Dr. Crowell reports. The only observation that we have been able to make is that the last shipment of skiodan seems to be slightly more toxic than Iopax. Iopax produces more pain in the arm but less systemic reaction. Dr. McPeak has pointed out that we may get an anaphylotoid reaction from new rubber tubing. This can be prevented by prolonged boiling in a weak sodium hydroxide solution before it is used.

I think in any case with low renal function there should certainly be a blood urea test before intra-

venous urography is used. This also applies to prostatitis and renal calculus cases in which the function is markedly lowered. The work of Jarre is very interesting. He has taken serial moving pictures of the kidney and ureter, showing the filling and emptying of them. This work has pointed out a new field in the study of the urinary tract.

Compression over the lower ureter using a bag is necessary to obtain the best pictures, producing as it does a slight renal back pressure. In closing, I wish to thank all of the gentlemen for their kind discussion.

THE USE OF CORTIN IN ADDISON'S DISEASE

(Hartman, F. A., Aaron, A. H., and Culp, J. E., in *Endocrinology*, Nov.-Dec. 1930)

A subject of Addison's disease with notably dubious prognosis was revived and has been kept alive for more than five months by the injection of extract of the adrenal cortex. Four relapses have occurred following reduction of the extract. A few hours after increasing the extract after a relapse, improvement was evident each time, and in two or three days recovery was almost complete. The appetite returned and mental activity became normal. Each relapse was accompanied by a fall in blood pressure and a rise in blood urea. Blood sugar was low during or after a relapse.

THE EARLY DIAGNOSIS AND THERAPY OF WHOOPING COUGH

(Leitner, Philipp, *International Medical Digest*, January 1931)

If more than 12,000 leucocytes are counted in the blood of a child without fever, or with only subfebrile temperatures, and without catarrhal symptoms (except the cough) and without suppurations, malaria or leucemia, the child may be declared suspicious of whooping cough, and should be isolated. An increase of the leucocyte count during the following days confirms the diagnosis.

The leucocytes begin to increase during the incipient stages, about 3 to 4 days after the infection, and in a quite typical manner, that is, in various steps, first to 14 thousand, then to 18 thousand, 20, 30, and sometimes even 40 or 50 thousand. In the spasmodic stage, the leucocytosis reaches its maximum, sometimes with 100 thousand. Then it decreases, gradually returning to normal within 8 to 10 weeks. This leucocytosis is associated with a marked increase of the lymphocytes.

As a curative treatment of whooping cough, the vaccine treatment must be instituted as early as possible, on the basis of the diagnosis made by the leucocyte count. The injections must be given subcutaneously, or also intramuscularly at intervals of from 1 to 2 days. Rather large doses (concentrated vaccines) must be employed. If the desired effect fails to appear after the first 4 injections, more injections (up to 8) are given.

The Treatment of Chronic Empyema By Decortication of The Lung*

I. A. BIGGER, M.D., Richmond, Va.

From the Department of Surgery, Medical College of Virginia

The present trend in the treatment of chronic empyema is toward conservatism. Only a few years ago chronic empyema was usually treated by collapse of the chest wall, and apparently little thought was given to obliteration of the cavity by expansion of the collapsed lung. The first step in the conservative treatment of these cases was taken in 1892 when Delorme¹ advocated excision of the thickened visceral pleura so as to permit the lung to expand. This operation was first carried out by George R. Fowler² in 1893 and since then has been advocated by Lilienthal, Hedblom and others.

By the use of closed drainage and sodium hypochlorite solution irrigations, it has been found that chronic empyema develops less frequently and chronic cavities can often be obliterated. One is therefore justified in stating that no radical operation should be performed for the relief of chronic empyema until closed drainage with irrigation has been given a fair trial. It is important, on the other hand, not to delay too long when it is evident that a cure cannot be thus obtained, for the longer the lung remains collapsed the less chance there is of getting it to expand. It is in these refractory cases that decortication of the lung has a distinct place.

Four cases are here reported in which conservative measures failed and in which decortication gave gratifying results.

CASE REPORTS

CASE 1.—*E. M.*, a white boy 15 years of age, was admitted to the University of Virginia Hospital on September 17th, 1926 complaining of a bullet wound of the left side of the chest. He was found to have a large collection of fluid in the left pleural cavity, a flaccid paralysis of the right leg, a loss of the superficial abdominal reflexes, and a temporary loss of control of the rectal and vesical sphincters. On October 3rd, 16 days after admission, 1800 c.c. of

bloody fluid was aspirated from the left pleural cavity and on October 5th, 500 c.c. On October 9th the fluid which was aspirated had a foul odor and cultures showed a growth of bacillus coli. On October 17th purulent fluid was obtained and two days later intercostal drainage instituted. This drainage was never entirely satisfactory, so on November 11th the 8th rib was resected in the posterior axillary line for open drainage. Subsequent x-ray examinations showed only slight expansion of the lung, so on February 1st, 1927, four months after injury, the thickened visceral pleura was dissected off and closed drainage again instituted. He was slowly recovering when on March 1st he developed a spontaneous valvular pneumothorax on the right side. Air was aspirated from the right pleural cavity on several occasions but rapidly re-accumulated for several days and then ceased to accumulate until March 22nd when the right lung again collapsed. Aspiration of air gave only temporary relief, so an intercostal tube was inserted for closed drainage. He then developed empyema of the right pleural cavity, which was drained. Both cavities became completely obliterated.

CASE 11.—*G. Mc*, a colored man 42 years of age, was admitted to the Vanderbilt University Hospital on February 29th, 1928. He gave a history of having been stabbed in the right side of the chest approximately three months previously. Two weeks later the eighth rib was resected and a large amount of pus evacuated. The drainage tube was left in place only a few days and the wound promptly closed. After three weeks the tube was reinserted but again removed too soon. When admitted to the Vanderbilt Hospital he was found to have a large empyema cavity with a small draining sinus. The 8th rib was again resected and closed drainage plus irrigation with sodium hypochlorite solution used for six weeks. No change could be made out in the size of the cavity either on x-ray examination or on direct measurement by the injection of fluid, so it was decided that decortication of the lung should be attempted. On April 26th the thickened visceral pleura was excised and a 24 French catheter inserted through the original tract for closed drainage. The patient remained in the hospital for two months and at the time of his discharge the cavity had been obliterated.

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

CASE 111.—*J. B.*, a white man 42 years of age, was admitted to the Vanderbilt University Hospital on August 5th, 1929, complaining of empyema of the right pleural cavity. He gave a history of pneumonia in March, 1929, followed by empyema. A rib was resected for open drainage the first of April. The drainage tube was removed one month later but drainage persisted through a small sinus. Examination at the time of admission to the Vanderbilt Hospital revealed a cavity of 1000 c.c. capacity which drained intermittently. A rubber tube was inserted and closed drainage with irrigations of sodium hypochlorite solution used for one month but without any appreciable change in the size of the cavity. On September 3rd the thickened visceral pleura was excised. A small catheter was inserted through the old sinus tract for closed drainage and after a week irrigation with sodium hypochlorite solution started. The upper part of the lung expanded rapidly but at the end of four months there was still a small cavity at the base. At this time the patient left the hospital against advice but returned on March 4th, 1930 with the cavity somewhat larger and still draining profusely. Irrigation with sodium hypochlorite solution was started and continued until March 27th. As there was no further decrease in the size of the cavity, it was decided that some type of plastic operation should be done, since the base of the lung appeared to be fibrosed and partially atelectatic. The posterior segments of the 4th to the 11th ribs were resected. Following this, suction drainage with irrigation was used and the cavity was rapidly obliterated.

CASE IV.—*W. B.*, a white boy 16 years of age, was admitted to the Memorial Hospital on December 8th, 1930, complaining of pain in the left chest and shortness of breath. He gave a history of pneumonia three weeks before admission followed by the development of purulent fluid in the pleural cavity. Aspiration the day before admission had obtained frank pus. X-ray examination showed the presence of a large collection of fluid with air above the fluid line, which was thought to indicate the presence of a bronchial fistula. The 8th rib was resected in the posterior axillary line and closed drainage instituted. No attempt was made to irrigate the cavity for 10 days. Then a small amount of sodium hypochlorite solution was injected but the patient aspirated some of it into the bronchial fistula, so no further irrigations were used. After two weeks an open drainage tube was inserted. The lung expanded slowly and he continued to show a moderate elevation of temperature and a distinct tachycardia. X-ray examination showed a shadow which was thought to be an interlobar collection of pus. It was therefore decided to do a wide intercostal thoracotomy, explore the cavity for further sinuses, and also remove the thickened visceral pleura. This was done on January 26th, 1931, and two small subcavi-

ties drained, but no sinus could be found leading into the interlobar space. The visceral pleura was greatly thickened. A drainage tube was inserted through the original sinus for suction drainage. The lung expanded rapidly but the elevation of temperature and pulse rate persisted until a collection of pus was discovered in the anterior portion of the pleural cavity and drained.

DISCUSSION

Indications and Contraindications.—Decortication of the lung is a relatively radical operation but is preferable to collapse of the chest wall, as it brings about a return of function to the collapsed lung. It should be resorted to only after failure of the more conservative measures to bring about expansion of the lung. The results obtained by suction drainage plus irrigation with sodium hypochlorite solution are so satisfactory in the majority of cases of empyema that these measures should be given a fair trial before any major operation is performed. However, if the lung is not expanding with irrigation, decortication should be considered where there are no contraindications, for it is important that every attempt be made to bring about expansion of the lung in the first few months of the disease as prolonged collapse is apt to cause extensive fibrosis and atelectasis. If the cavity holds less than 100 c.c. it is usually better to do one of the less radical plastic operations on the chest wall.

Decortication is contraindicated in tuberculous empyema especially when there is an associated pulmonary tuberculosis. It is probably contraindicated in pyogenic empyema when the lung has been completely collapsed for more than a year or when there is definite evidence that the lung is so extensively fibrosed that expansion would be impossible under any circumstances. Caesar³ suggests that elasticity of the lung be tested for by fluoroscopic examination with spasmodic respiratory efforts with the glottis closed. If there is a fistula of the chest wall this will produce a reduction in the size of the cavity and give an idea of the flexibility of the undecorticated lung. The presence of a bronchial fistula is not a contraindication but will delay expansion of the lung. If the fistula is a large one an attempt may be

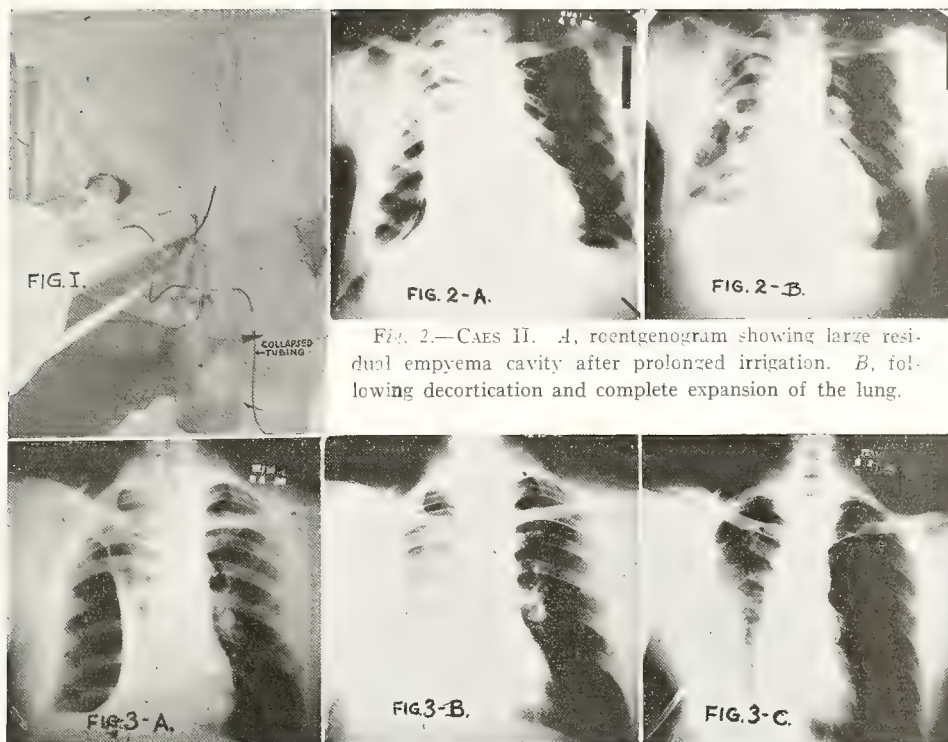


FIG. 2.—CAES II. A, roentgenogram showing large residual empyema cavity after prolonged irrigation. B, following decortication and complete expansion of the lung.

FIG. 1.—A satisfactory apparatus for suction drain age. A large bottle is connected with a suction pump by soft rubber tubing and the air aspirated until the tubing collapses. The bottle communicates with the pleural cavity by noncollapsible rubber tubing and acts as a suction chamber.

FIG. 3.—Case III. Roentgenograms, A, showing very large chronic empyema cavity which did not respond to irrigation and closed drainage; B, showing expansion of the upper portion of the lung following decortication; and C, showing final results after decortication and partial thoracoplasty.

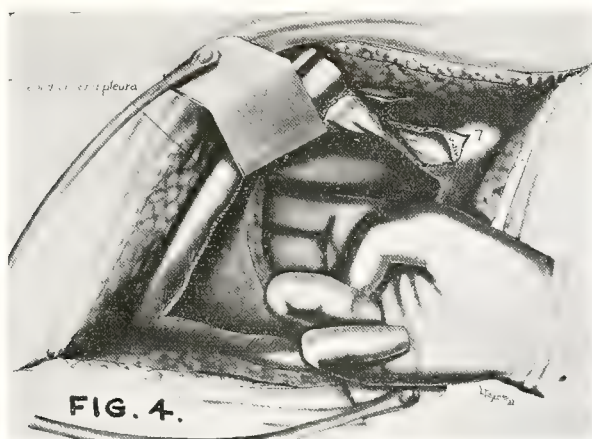


FIG. 4.—Drawing showing method of removal of the thickened visceral pleura.

made to close it by suture or cauterization at the time of the decortication. If the fistula is a small one it is better to cauterize it or leave it alone, as spontaneous closure is likely to occur.

Technique.—A number of different incisions have been used for the purpose of exposing the visceral pleura for decortication. The most satisfactory one is that advocated by Lilienthal⁴, in which he resects the posterior segments of three or four ribs and then makes a long intercostal incision. This gives an excellent exposure of the pleural cavity, is easily closed, and leaves practically no deformity.

Approximately the same technique is used by all surgeons for removal of the thickened pleura. The pleura is incised, usually in a perpendicular direction but occasionally with an added cross incision, dissected up in so far as possible by inserting the fingers of the right hand beneath it, with the palmar surface outward. It is dissected up to the margin of the lung and then excised. If it is so adherent that it cannot be excised, a considerable degree of relaxation can be obtained by the Ransohoff discission. The operation is not especially difficult but is apt to be followed by some degree of shock, so the patient should be in as good general condition as possible. A donor should be available, as transfusion may be necessary.

Results.—Hedblom⁵ reported 30 cases of decortication of the lung, with complete cure without further surgery in 15 cases, complete cure after secondary plastic operations for small residual cavities in five cases, and only one operative death.

Whittemore⁶ reported 15 cases of decortication with 11 complete cures without further operation, and with no deaths.

In the four cases here reported, two were completely relieved without further operative procedure. One required a plastic operation for the obliteration of a small cavity, but it was possible to preserve the function of a considerable portion of the lung by the decortication. The fourth case has been operated upon so recently that the lung has not yet completely expanded but it is expanding rap-

idly and there seems to be little doubt but that the cavity will be completely obliterated.

SUMMARY

Decortication of the lung is the operation of choice when there is a residual empyema cavity which will hold as much as 100 c.c., if there are no contraindications. It should be used only in well selected cases which have been given a thorough trial with suction drainage and irrigation with sodium hypochlorite solution. The results are usually satisfactory and even though the cavity is not completely obliterated it is almost always possible to so far reduce its size that it is necessary to collapse only a small portion of the chest wall for its final obliteration. If the cases are well selected and thoroughly prepared there should be a low operative mortality.

References

1. DELORME, E. Quoted by Hedblom C. A. The Treatment of Chronic Empyema. *Annals of Surgery*, Sept. 1920, p. 289.
2. FOWLER, GEORGE R. *Medical Journal and Record*. Vol. 44, p. 838, Dec. 30, 1893.
3. CAESAR, F., *Deutsch. Zeitschr. f. Chir.* Vol. 193, p. 107, 1925.
4. LILIENTHAL, HOWARD. *Thoracic Surgery*. Vol. II, p. 8. W. B. Saunders Co., Philadelphia.
5. HEDBLOM, C. A. The Treatment of Chronic Empyema. *Annals of Surgery*, Sept. 1920, p. 289.
6. WHITTEMORE, WYMAN. Quoted by Hedblom, C. A. *Ibid*.

PRECORDIAL PAIN: A SURVEY OF 234 CASES

(Levin, Louis, in *Medical Journal and Record*, February 4, 1931)

Precordial pain is classified as follows: *a*, angina pectoris; *b*, coronary occlusion; *c*, nonparoxysmal organic pain other than coronary occlusion; *d*, all other pain (non-organic).

In the series of patients studied the incidence of precordial pain of organic origin was 30.3 per cent. Organic heart pain, particularly that due to coronary occlusion, occurs much earlier and in greater proportions than ordinarily supposed. The symptom of dyspnea is of no value in determining in a given case whether or not the pain has an organic basis.

Ninety-four per cent of the patients with angina pectoris showed one or more abnormal physical symptoms. Of 33 patients traced, 45.5 per cent also showed definitely abnormal electrocardiograms.

Abnormal physical findings were present in all patients with coronary occlusion. Only one of 11 taken, 9.9 per cent, had a normal tracing.

The Conservative Treatment of Eclampsia*

M. PIERCE RUCKER, M.D., Richmond, Va.

Thirty years ago when I was a student in medical school there was only one treatment of eclampsia. We were taught to remove the cause, which was in some way connected with the product of conception, as rapidly as possible. This as expressed in the obstetrical parlance of the day meant, accouchement forcé and rapid delivery. Several years later it often meant cesarean section.

With the appearance of the work of Stroganoff in Russia, Tweddy in Dublin and McPherson in New York, our ideas as to the need of speedy delivery underwent a radical change. The emphasis shifted to stopping the convulsions. This was accomplished with morphine, bromides and chlorides, venesection, gastric lavage and colonic irrigation. The shock of operation and anesthesia was avoided but the patient was disturbed with almost constant treatment in some form or another and this was kept up not infrequently for days. The treatment was taxing on the attendants as well as the patient.

With the advent of intravenous use of magnesium sulphate as advocated by Lazard, the treatment was greatly simplified. The convulsions were easily controlled and the long period of coma was done away with. My aim now is to (1) stop the convulsions and disturb the patient as little as possible, (2) force fluids, and (3) support the heart.

The first indication is met admirably by magnesium sulphate intravenously. There is no objection to an initial dose of $\frac{1}{4}$ to $\frac{1}{2}$ gr. of morphine while you are getting ready for the intravenous medication. Twenty c.c. of a 10 per cent solution of chemically pure magnesium sulphate are injected slowly into a vein. The magnesium sulphate can be repeated in 15 c.c. doses once or twice, but this is rarely necessary. In only two cases have I been unable to stop the convulsions in this manner. Sodium amytal intravenously or avertin per rectum are said to be especially efficacious in relieving convulsions but I have had no experience with either in the treatment of eclampsia. My two obstinate cases referred to occurred before either of

these drugs was on the market. After you have gotten the convulsions under control, sodium bromide and chloral hydrate are useful drugs with which to taper off the treatment.

The best way of administering fluids to an eclamptic is by way of the stomach. If the patient is unconscious it is a simple procedure to slip in a nasal tube and pour a pint of water into the stomach. The first time this is done I give a half a cat-unit dose of tincture of digitalis also. The water is repeated every eight hours if the patient is unconscious. Usually however, the magnesium sulphate wakes the patient up and she can drink the necessary water or lemonade.

Venesection is occasionally necessary to relieve the pulmonary edema. However, pulmonary edema is extremely rare when digitalis is given. In one neglected case the pulmonary edema was so marked that the patient was literally being drowned. She was intensely cyanosed. In that case I gave oxygen intraperitoneally. The cyanosis disappeared in a few hours and the patient recovered. Stroganoff uses inhalation of oxygen at each convulsion. I have not found a place for this since I have begun to use magnesium sulphate, for the reason that the convulsions are so quickly relieved.

I thought it would be interesting to review the 205 cases of eclampsia (convulsive toxemias) that have come under my observation in the last 27 years and to show how the maternal mortality has been influenced by the changes outlined above.

The first group, *i.e.*, when rapid delivery was the chief concern in the treatment, comprises 38 cases with 12 deaths, a mortality of 31.6 per cent. Accouchement forcé was done 9 times with 4 maternal deaths. Midforceps 10 times (5 times after accouchement forcé) with 3 maternal deaths. In the other 4 cases in which accouchement forcé was used it was followed by a Braxton Hicks version with 2 maternal deaths. In the 5 midforceps cases without accouchement forcé there was 1 maternal death. There were 6 cesarean sections

*A Clinical Lecture presented to a Section of the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

with 2 maternal deaths.

The second group, when morphine, venesection, gastric lavage and colonic irrigation was the treatment, comprises 58 cases, with 15 maternal deaths, a mortality of 25.9 per cent. In this group there were 1 accouchement forcé with no death, 9 midforceps with 2 deaths, two high forceps with 2 deaths and one cesarean section with no death. Four mothers died undelivered.

The third group which begins with my adopting intravenous magnesium sulphate, comprises 109 cases with 6 maternal deaths, a mortality of 5.5 per cent. The major obstetrical operations in this group were seven midforceps deliveries and three cesarean sections. One mother died undelivered.

It is instructive to study the deaths in this group in a little more detail. The first was a white multipara 36 years of age, who was admitted to the Memorial Hospital with a blood pressure above 200, and many casts in her urine. She had had no prenatal care. She was treated with morphine, digitalis, gastric lavage, and colonic irrigations. She did not get magnesium sulphate. She delivered herself of a stillborn child and died within 24 hours. Actually this case belongs in group II, but chronologically it is in group III. The next case is a similar one, and is that of a 36-years-old negro multipara who was admitted to St. Philip Hospital without prenatal care. Her blood pressure was above 200. The urine contained an abundance of albumin but no casts. The delivery was spontaneous of a stillborn male child. She was treated with morphine, digitalis and colonic irrigations, but no magnesium sulphate. The third case was that of a colored primipara, 33 years of age. Blood pressure was above 200. Urine contained casts. No prenatal care. Delivery was spontaneous, of 44 hours' duration. The baby was a female and stillborn. The mother died of pneumonia on the 14th day post partum. The fourth case was that of a 16-years-old, colored primipara, with normal blood pressure and urine. She had a rhachitic pelvis. The convulsions were controlled. The patient went into labor and, after a trial labor of 52 hours, a cesarean section was done. The patient died of peritonitis on the third day. The fifth case was that of a white primipara, of 21 years. She was an epileptic as well. I was unable to stop her convulsions by mor-

phine and repeated doses of magnesium sulphate and she died in a convulsion undelivered. The last case was that of a white primipara 21 years of age, who was admitted to the hospital without prenatal care. Her blood pressure was above 200. I was unable to stop the convulsions with repeated doses of magnesium sulphate. The cervix was fully dilated. I did a spinal puncture. The fluid was under considerable pressure. Fifty mgm. of novocaine were injected and an easy version and extraction done. The child, a female, was stillborn. The mother had no more convulsions but died a few hours afterwards in coma.

SUMMARY

Of the six deaths that occurred in the 109 cases of the ultraconservative group, two were not treated ultraconservatively, two died of infections after the eclampsia had subsided, and only two were truly eclamptic deaths treated in the manner described.

POST-OPERATIVE TYMPANITES

(Hengerer, A. W., in *New York State Journal of Medicine*, Jan. 15, 1931)

If the patient's condition permits the best treatment is knee-chest position. This will often permit the expulsion of gas. Use of the rectal tube. Injection of a large amount of milk of asafetida or asafetida by mouth.

Hypodermics of eserine calicylate. This is one of the best drugs for tympanites and should be given in large doses 1/50 gr. (normal gr. 1/100). Atropine sulphate 1/75 to 1/15 may be given when eserine or physostigmine is not obtainable. If the case is one of adynamic ileus large doses of morphine act well and it is surprising how useful morphine is in these cases. The escape of gas is facilitated by the relief of pain and relaxation of anal sphincter.

CINCHOPHEN AND ACUTE YELLOW ATROPHY OF THE LIVER

(Walker, W. G., in *New England Journal of Medicine*, February 5, 1931)

Two cases of acute yellow atrophy of the liver following the use of cinchophen are reported. Autopsy findings are included.

Toxic symptoms did not appear in one patient until five weeks after the drug was discontinued. The other patient took 750 grains of the drug six months prior to her death with no discomfort. Symptoms of poisoning occurred immediately, however, when a second course of treatment was started.

The Pain Cycle

EDWARD PODOLSKY, M.D., Brooklyn, N. Y.

Pain is essentially a complex sensation, difficult to analyze into its components. It is quite easy, however, to recognize as its most important components two major sensations, nausea and pleasure. These, in themselves, are by no means simple sensations; their constitution is little less complex than is pain, itself.

Most instances of pain have these two major sensations so nicely fused that it is hopelessly difficult to say which one predominates, or to describe the quality of pain in terms of pleasure or nausea. A chart may be constructed in the form of a circle, "Pleasurable" (*P*) at East, "Nauseous" (*N*) at West, "Pleasure-Nausea" (*P-N*) at North and "Nausea-Pleasure" (*N-P*) at South.

P-N, or *N-P* represent pleasure and nausea combined equally with no predominance of either element. Most cases of pain are in this category. *P2N* indicates that pleasure is beginning to be distinctly felt; that is, it is just beginning to predominate over the nausea element. *P3N* is a step further in the direction of the pleasure part of the pain cycle. In the other direction, where the cycle swings toward nausea, (*N*), the pleasure element begins to decrease and the nauseous element begins to increase in a definite mathematical proportion.

Most instances of pain fall in the vicinity of *P-N*, or *N-P*. Perhaps the simplest case in which the element of pleasure begins to become visible in a painful experience may be illustrated by the case of a boy with a loose tooth which he continually molests with his tongue. There is, of course, some pain, but the element of pleasure is sufficient to more than compensate for the element of unpleasantness. This would fall in the category of *P2N* or *P3N* on the chart.

There are many experiences of pain which fall into each category in the cycle. Perhaps the most interesting is where the element of pleasure is so acute that invited pain is for the express purpose of enjoying the accompanying subtle pleasure. Seydel (*Vierteljahrssch.f. ger. Med.*, 1892, Vol. 2) tells us of

a woman who repeatedly dislocated her arm in order to experience sensations of a very pleasurable and even lustful nature when it was being reduced, anesthetics then being unknown. Paullini (*Flagellum Salutis*) relates an instance of an insatiable fellow who, to experience what, to him, was the acme of pleasure, had himself whipped and torn with tongs until the blood flowed. Cox reports the case of a man who, for the purpose of deriving lustful pleasure therefrom, bared the upper part of his body, closed his eyes and had girls walk over his naked breasts, neck and face, urging them at every step to press hard on his flesh with the heels of their shoes. Sometimes he ordered one of the girls to stand on his breast, having the others turn her about until his skin was torn and bleeding from the contact of the heels of her shoes. This and the two preceding cases distinctly fall into *P6N* part of the cycle where pleasure is so pronounced that the nauseous element is negligible.

An instance where nausea is the predominant element is when a person gets his fingers crushed in a slamming door. The pain is characterized in this case by a distinct feeling of faintness, and sickness in the pit of the stomach. The element of pleasure is negligible, and this falls at once into the *N6P* part of the cycle. There are many such instances, and, of course, such experiences of pain are not invited as are those where pleasure is the predominating element.

Perhaps the most interesting cases are those where one predominating element gives place to another. That is, pain may start by being distinctly pleasant and quickly swing over to the other part of the cycle where it becomes characterized by nausea. A case is reported in the recent literature on masturbation of a man obtaining pleasurable emotions by constantly pricking his glans penis with a long, sharp knitting-needle. At the beginning of this practice, he experienced distinct pleasure; but after several minutes the pain swung over to the other segment of the cycle and he became nauseated. There are instances where

pain first characterized by nausea gradually becomes pleasurable.

A rather interesting thought is this: Nausea may be nothing more than a phase of pleasure. That is, when pleasure becomes so intensified, so keen, it falls into the category of nausea. Bevan, in his work on *Pain*, relates the case of a man who used to experience great pleasure during intercourse and, as the act went on, the pleasure became more intense, until towards the end of the act, he became overcome with a feeling of nausea and fainted. Vice versa, pleasure may be nothing more than diluted nausea. Pain, therefore, may be a combination of pleasure and nausea, either in a 50:50 combination, or either the one or the other predominating.

—166 Rockaway Parkway.

FOOD PREJUDICES

(Harding, T. S., in *Medical Journal and Record*, January 21st, 1931)

Research studies have shown that the appearance of food has really little effect upon our digestive apparatus. Food which is served repulsively will none the less digest about as rapidly as food tastefully served, provided we can swallow it. People with strong prejudices against certain foods can, none the less, digest and use them biologically provided they manage to get them into their stomachs.

Sometimes we can gradually change our taste by judicious trying; in other cases I simply do not believe it is worth the trouble to try provided our diet is relatively varied.

It would be well if families with children would serve just as wide a variety of foods as they could and regardless of parental taste. Children should regularly be exposed to every sort of food available, but urged neither one way nor the other. Eating should be matter-of-fact and no inhibitions aroused either by parental whim or by urging certain things upon the child as "good for" it.

Animals and young children instinctively vary their intake in accordance with their requirements when permitted to do so.

CAUSES OF DEATH FROM ACUTE APPENDICITIS

(McDonald, A. L., in *Minnesota Medicine*, March 1931)

There is no classic picture of acute appendicitis which will fit any large number of cases. As physicians, we must appreciate the dangers of procrastination. Prompt diagnosis, careful attention to possible complications, and immediate appendectomy is the only safe course. It is the major hope of materially reducing the heavy mortality of this disease. There is need of a campaign of education for physician and layman bringing out the terrific dangers of delay. The so-called late cases often occur surprisingly early in the course of the disease.

HEREDITY OF CARCINOMA IN MAN

(Warthin, A. S., in *Annals of Internal Medicine*, January 1931)

The individual who has a family history of the multiple incidence of cancer in several generations should take heed. Particularly important is the investigation of the collateral lines with reference to multiple incidence of cancer, rather than in the line of direct descent. Such an individual with a history of the multiple familial incidence of cancer should avoid all of the known extrinsic agents associated with the etiology of cancer. Chronic irritation of any form that may lead to abnormal regeneration should be removed or obviated. He should not smoke; he should not engage in any industry in which mineral oil, tar, paraffin, or other irritating products that might lead to the production of cancer, are used. He should not expose himself to irradiation. Scars of the skin, particularly large scars from burns, should be treated by skin grafting. All developmental anomalies should be corrected or removed. Rough, pigment moles should be removed. All chronic inflammatory conditions occurring in such an individual should be healed as quickly as possible.

Finally, there is the question of breeding as a general preventive measure. The man who has a history of the multiple incidence of carcinoma in his family should not marry a woman who has the same kind of a family history, but he should marry a woman who has no history of cancer in her family. It is but rational and logical to apply preventive measures of eugenics to this problem; and till such measures are considered as practical, there can be no great hope for any speedy conquest of this great plague of mankind.

CESSATION OF ATTACKS OF AURICULAR PAROXYSMAL TACHYCARDIA BY USE OF CALCIUM

(Wolffe, J. B., Bellet, S., in *Annals of Internal Medicine*, January 1931)

A series of three cases of simple tachycardia is reported with electrocardiograms in which the paroxysms were immediately terminated by the use of calcium. It is believed that this is a therapeutic measure which, while not successful in every instance, is well worth trying where other methods have failed and where the length of the attacks is dangerously prolonged.

A CRITIQUE OF PRESENT METHODS IN STUDY OF GASTRIC ACIDITY

(Matzner, M. J., and Gray, Irving, in *Archives of Internal Medicine*, January 1931)

Histamine should always be employed as a gastric stimulant in cases in which the routine test meal has elicited no response of free hydrochloric acid. A definite urinary alkaline tide was found in about 50 per cent of our cases in which free hydrochloric acid was demonstrated after the injection of histamine.

PRESIDENT'S PAGE

Medical Society of the State of North Carolina

J. G. MURPHY

I am glad of an opportunity to extend an invitation to attend the meeting in Durham, April 20-21-22. An attractive program has been arranged covering a broad scope. It gives an opportunity for those who prefer section meetings to have their desire gratified. It also has varied general meetings, for men interested in all the different lines of medicine. There are public health meetings on the first day. Certain of the sections have arranged clinics to be held at the Duke University Hospital, affording an opportunity for practical demonstrations of the matters presented in the papers. So our program is broad enough to satisfy any desire.

On April 20th the profession of the state is invited to the dedication of the wonderful new Duke University Medical School and Hospital, which is to be celebrated in conjunction with the meeting this year of the North Carolina State Medical Society. A number of prominent doctors of the nation are to attend these exercises. Doctor Abram Flexner of New York, Doctor Morris Fishbein, editor of *Journal of the American Medical Association*, Chicago, Doctor W. H. Welch of Johns Hopkins University, Doctor John B. Deaver of Philadelphia, and others. All, I am sure, are anxious to see this new institution and here you have an opportunity af-

forded in which you can kill two birds with one stone.

After several meetings and full acquaintance with the plans, I can announce to you in advance that Duke University and Durham-Orange County Medical Society, the joint hosts of our meeting this year are vying with each other as to which will be able to extend a more cordial welcome. It may be because I have worked in preparation harder, but anyway I am predicting this is to be the best attended meeting our State Society has ever had. My heart will rejoice if it is. The biblical injunction applies to us that we should not forsake the assembling of ourselves together. We get new and helpful ideas from these gatherings that come in no other way; this being true our first privilege and first obligation is to be present at the meetings. With the location of Durham almost in the center of the state and with our wonderful system of highways, the meeting is easily in reach of the doctors in the most remote counties.

In the revolving cycle of time when the next issue of this journal appears, my time as president will have passed into history, and this page will belong to another. I have had a good time filling this office. The work of the Society has been a genuine pleasure—except filling this page and making speeches. That has been a duty performed.



As MS. was received after all sections of journal were printed it was necessary to make a special run of this matter and assign it a special page number.

Case Report

HERPES ZOSTER OTICUS WITH FACIAL PARALYSIS

V. K. HART, M.D., and J. P. MATHESON, M.D.
Charlotte, N. C.

From the Charlotte Eye, Ear, Nose and Throat Hospital.

A herpes zoster is apparently a hemorrhagic inflammation of one or more posterior root ganglia. However, the sensory ganglia of the cranial nerves are analogous to the root ganglia and these may be similarly affected individually or collectively. Of particular interest are those involving the eye or ear.

The latter presents an interesting picture. A case is reported with an accompanying facial paralysis.

The patient, an adult female, was first seen 12/12/30.

Chief Complaint: Painful left ear.

History of Present Illness: Ear began to pain five days ago. Two days later developed a left facial paralysis.

Past Medical History: Nothing of value.

Examination: Well developed white woman 23 years of age. Vesicle containing bloody fluid on floor of left canal. Left external auricle has circumscribed eczematous areas exuding serum, and few discrete blisters containing clear fluid. Whole left external ear reddened. Both drums normal. Right canal and auricle normal. Nose and throat examination shows only badly diseased tonsils. Left facial paralysis, peripheral type.

Ear Tests:	Right	Left
Bone Conduction (Mack-enzie fork 190 d.v.) c4	Normal Short 35 seconds	Normal Short 15 seconds
Big C	Normal	Normal
Minimal caloric	Normal	Some hypofunction.

Diagnosis: Herpes oticus, left with secondary seventh and eighth nerve involvement.

Treatment: There is no specific treatment. The ear should be kept clean, of course, and free from contact with the hair. Local mild antiseptics may be used. Frank foci of infection should be eliminated. Tonsillectomy was advised in this patient but she did not return for the same.

Comment: Near the "knee" of the facial nerve in the fallopian canal lies the geniculate ganglion. This is a component of the nerve of Wrisberg associated with the facial. The afferent fibres supply sensation to the skin of

the auricle and external auditory canal.

An inflammation of this ganglion would then give a herpes of these areas. Moreover, due to its close proximity to the facial within a bony canal, the seventh can easily be involved by direct extension. More centrally the seventh is very closely associated with the eighth in the internal auditory canal. Here, then, an inflammation of the seventh can be transmitted by direct contiguity to the eighth. This explains this patient's eighth nerve involvement, both cochlear and vestibular, which was only moderate.

There have been some 72 such cases reported in the literature. Ramsay Hunt¹ originally investigated the condition and the pain is, therefore, sometimes spoken of as "Hunt's geniculate neuralgia".

The tendency is to spontaneous recovery. Other sensory cranial nerve ganglia may or may not be simultaneously involved. Sears² reports one case in which there was involvement of a herpetic nature of six cranial nerves, the fifth to the tenth inclusive.

Bibliography

1. BUCKINGHAM, T. W.: Herpes Oticus Zoster. Report of a Case with Facial Paralysis. *Archives Otolaryngology*, 13:59, January, 1931.
2. SEARS, WM. HARDEN: Herpes Zoster Oticus. *Annals of Otolology, Rhinology, and Laryngology*, 36: 361, June, 1927.

ON THE ADMINISTRATION OF CARMINATIVES

(Henderson, V. E., in *The Canadian Medical Association Journal*, February 1931)

Undoubtedly the alcohol usually given with the carminative proper aids in the effect. Such prescriptions as the following may be recommended:

R	Spiritus Anisi	mm. ii
	Spiritus Chloroformi	dr. iss.
	Syrupi	dr. i
	Elixir Aromatici	ad oz. i
	Dose—2 dr.	
R	Tr. Cinnamomi	dr. iiss
	Spiritus Chloroformi	dr. i
	Tr. Cardamomi Co.	dr. iiss
	Syrupi	ad oz. i
	Dose—2 dr.	
R	Spiritus Anisi	mm. xv
	Spiritus Chloroformi	dr. i
	Tr. Cardamomi Co.	ad oz. i
	Dose—2 dr.	

The alcoholic content of the third of these prescriptions is somewhat greater than that of the other two. They have all been devised to meet the present situation in regard to alcoholic beverages.

SOUTHERN MEDICINE AND SURGERY

OFFICIAL ORGAN OF { Tri-State Medical Association of the Carolinas and Virginia
{ Medical Society of the State of North Carolina
 JAMES M. NORTHINGTON, M.D., *Editor*

Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	Human Behavior
CHILDREN'S CLINIC GROUP	Black Mountain, N. C.	} Pediatrics
CHILDREN'S HOSPITAL GROUP	Charlotte, N. C.	
W. M. ROBEY, D.D.S.	Charlotte, N. C.	Dentistry
EYE, EAR & THROAT HOSPITAL GROUP	Charlotte, N. C.	Eye, Ear, Nose and Throat
THE BARRET LABORATORIES	Charlotte, N. C.	Laboratories
O. L. MILLER, M.D.	Gastonia, N. C.	Orthopedic Surgery
HAMILTON W. MCKAY, M.D.	Charlotte, N. C.	Urology
ROBERT W. MCKAY, M. D.		
J. D. MACRAE, JR., M.D.	Asheville, N. C.	Radiology
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	Dermatology
PAUL H. RINGER, M.D.	Asheville, N. C.	Internal Medicine
GEO. H. BUNCH, M.D.	Columbia, S. C.	Surgery
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	Therapeutics
HENRY J. LANGSTON, M.D.	Danville, Va.	Obstetrics
CHAS. R. ROBINS, M.D.	Richmond, Va.	Gynecology
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	Neurology
VARIOUS AUTHORS		Historic Medicine
JAMES ADAMS HAYNE, M.D.	Columbia, S. C.	Public Health

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

FAMILY DOCTORS ON DIVISION OF THE MEDICAL FIELD WITH SPECIALISTS

In the issue of this journal for January the departments were taken up with expressions from the editors of the different departments as to the proper division of the segment of the practice of medicine to which each department editor is devoting his attention between the general practitioner and the specialist.

At that time one of these department editors, in discussing the difficulties of the job, asked, "Why not have the general practitioners express themselves?" At that time we commended the idea, and when such a MS. came in soon after from a good general doctor, and along with it an opinion that it would be well to let it be known that in a special issue would be grouped articles by men in general practice on "The Family Doctor as a Pediatrician", ". . . as a Dentist," etc., etc., the resolution was made to try it out.

Of course we have had a good many to de-

cline, and some will have their essays in for next month's issue. In the two issues it is expected that the whole field will be covered.

As we have gone on with this plan it has grown on us that it was a good thing to do. The results speak for themselves. We are proud to be able to exhibit the writings of these family doctors, most of them in small places, and to emphasize again that the size of a doctor is not determined by the size of his town. These doctors have written about their own work. They are not discouraged, for they know that they, themselves, are capable of doing most of the things needed by their patients, and that as long as they do this, honestly referring the work which they can not do adequately, their services will be required and required.

Read all these doctors have to say and then send in your opinions for the general good.

HOW IMPORTANT IS FOCAL INFECTION?

Focal infection has exercised the thought processes of doctors now in practice probably more than any other debatable subject, and even now there is little agreement as to its importance in the practice of medicine. This applies to general practitioners and specialists, particularly dentists.

In a special journal's recent issue¹, Dr. J. A. Pallia of Los Angeles discusses this subject in an exhaustive and judicial fashion. After reviewing some 60 writings and considering these along with his own observations, he says that these studies tend to disprove the specific relationship between a focus of infection and a disease, and recommends that the doctrine of specificity be abandoned for the broader concept that it is a basic influence affecting the whole body.

He says it is necessary to prove that a focus is active in order to justify its removal, and emphasizes that "focus of infection" and "focal infection" are not the same; nor does the latter by any means always follow on the former. Very strongly and reasonably it is put "Focal infection is not a specific disease-producing agency, but a general influence that lowers the body resistance and thus permits native bacteria to cause infection." Beneficial effects from the removal of foci are attributed to an autogenous non-specific protein reaction "which develops from the tissue injured during the operation and not as a result of the eradication of a direct causative factor."

In discussing this essay when it was presented to the New York Academy of Medicine, last November, Dr. Nellis B. Foster, stated that this study had pretty well shot to pieces the theory of focal infection; further, that Dr. Frank Billings of Chicago, who gave focal infection its first great impetus, "having repented, has changed his point of view." He also called attention to a great source of error here, and in many other attempts to properly evaluate any theory in medicine, *i.e.*, the reporting of successes and the suppression of failures. Any contention may be proved by such methods.

No one disputes that on rare occasions the removal of a pus pocket is followed by astonishing relief from pains and disabilities in distant parts of the body, and none but ungenerous persons would hold that all these are instances of pure coincidence; however, this assertion does not alter the fact that the

chance of obtaining any brilliant result is about a 100-to-1 shot, or that it is well to consider carefully before sacrificing useful teeth and incurring the expense, the additional suffering and the risk, of operations, on a very remote chance of being benefitted. As Dr. W. A. Franken (a D.D.S.), said in the same discussion, the one most concerned is the patient. In closing, Dr. Pallia impressed it strongly that the thought he wanted to leave was that focal infection is not an important cause of disease.

We are in agreement with this line of reasoning and the conclusions arrived at. We have seen the rise and fall of too many fads to allow enthusiasm to run away with us, when any one—no matter how eminent—comes forward with a panacea. Startling remedial measures are, in many instances, devised more to startle than to cure; and undoubted honesty in its advocates is no proof of merit in a cause or theory. The doctor who is too much disposed to espouse fads usually goes from one fad to another as they die on his hands, and often, abandons medicine altogether, and finishes out his days in disillusionment and bitterness.

Let the proponents of any new measure prove it to your satisfaction. Be critical. The critical faculty chiefly differentiates man from brute.

1. *Journal of Dental Research*, February, 1931. Newer Concepts of Focal Infection, JOSEPH A. PALLIA, M.D.

SOME WEAKNESSES IN MEDICINE'S CASE AN ATTEMPT AT STRENGTHENING IT

Although strong in our belief in doctors and loud in their praise, we do not overlook their shortcomings. As individuals too many fail to provide proper office facilities or simple diagnostic aids, to make careful examinations and adequate records, or to keep informed on what Medicine has to offer. As groups we are sometimes slow to meet needs in the best manner. A consideration of some of our weaknesses should do good.

The president of our largest State Medical society has a good deal to say along this line in a 2-page article in the March issue of a medical journal of wide circulation.¹ We are in agreement with him that, too often, we have held aloof from health administration and worthy health activities of social organi-

zations, and failed to provide the needed medical leadership. True, some health activities are in the hands of lay people who will not let doctors take any part except as subordinates, and such organizations doctors would be wise to decline to be mixed up in.

A point he makes which deserves particular stress is that we need an awakening as to the value of unanimous action on the opinion of a majority. It is clear that here a finger is put on the exact spot. Other organizations containing far less of education and of individual influence constantly flout us because we have a poor reputation for putting all our strength behind the majority opinions of our medical bodies. Organized medicine rarely uses the power of unanimous opinion in public affairs, and that's why chiropractors were licensed in North Carolina, and why the next band of organized fakery that comes along to take the place of this rapidly dying sect will be licensed—unless we exert unanimous influence against it.

The situation demands painstaking study of all our problems; wise, able, energetic leadership, and unfaltering loyalty on the part of every doctor, in carrying out the decisions of the majority. Medicine needs publicity of the kind which will keep all the people informed on proved advances, and guarded against basing extravagant hopes on claims not amply supported by reliable evidence; also, medical organizations should, from time to time, have newspapers publish historical medical articles, outlining the solid achievements of Medicine, and calling the roll of the long line of cults which have risen and fallen, while the system based on investigation and reason moved steadily on its way.

It is truly said that members of the medical profession can not insure doctors and patients against the evils of any system which would take out of the hands of the individual the inestimable privilege of choosing his own doctor, unless doctors, themselves, take the leadership in planning how to provide medical care for those who can not make this provision for themselves. It is also well known that, as this matter is handled now, in many instances this care is practically exacted from the doctors without remuneration, and even then the doctors are shown in a poor light and are given blame rather than gratitude.

In 11 of the counties of Iowa the indigent sick are cared for by contract with the medical society,² either the entire county society, or the members in certain portions of the county entering into contract with the county officials to render professional care to the paupers of the county for a fixed annual sum. A corporation separate from the county medical society, even when the membership of the two bodies is the same, is essential in order that the county authorities may have some responsible body with which to deal.

The contracts in the several counties vary as to detail. The Iowa State Society supplies a standard contract on request, somewhat in skeleton form to admit of adaptation. This plan has been in operation in one county for 26 years, and in two others for 20 years, with very general satisfaction.

Would it not be of advantage for the doctors of some, or all, of our counties to look into this plan, with a view toward (1) reducing the grumbling about poor folks not getting competent medical care, and (2) doctors getting paid from the county for their services to paupers?

1. W. H. ROSS, M.D., President Medical Society of the State of New York, in *Medical Times & Long Island Medical Journal*.

2. R. L. PARKER, M.D., in *Jour. Iowa State Medical Society*, Jan., 1931.

ABSTRACTS: ASK FOR REPRINTS

A feature of the striving of this journal to furnish doctors with what they want (in the right sense of the word), is the carrying of abstracts of articles in other medical publications over the world. We are confident that our readers find information of value and interest in these abstracts, and it comes into mind that some may wish the whole article. Dr. Paul Ringer frequently reminds his readers that authors are glad to send reprints to those who request them. That advice is here endorsed. Hereafter we will supply the addresses of those whose articles we abstract. Those of you who desire addresses in order to request reprints of articles abstracted without giving addresses can obtain the information by mailing a request and a self-addressed card to the journal in which the original article appeared.

DEPARTMENTS

HUMAN BEHAVIOR

For this issue, WINGATE M. JOHNSON, M.D.
Winston-Salem, N. C.

THE FAMILY DOCTOR AS A PSYCHIATRIST

When asked to write on the family doctor as a psychiatrist, I naturally re-read Dr. Hall's article in the January number of *Southern Medicine and Surgery*. And then I wondered why anybody else was asked to write again on a subject that had been so thoroughly covered by a master. My high regard for Dr. Northington, however, urges me to attempt anything he asks of me, even though my good friend Dr. Hall left little to do but express his thoughts in different words.

Until comparatively recent years it has been taught that in treating a sick person, the proper procedure was to look for the physical cause of his disease, and remove the cause—or have it removed by an accommodating surgeon. A famous Philadelphia surgeon made himself still more famous by his oft-repeated dictum, "Every case of indigestion ought to be operated upon". It was not until young medical men had taken a long course of post-graduate instruction in the University of Hard Knocks that they began to find out that the doctrine of their revered teachers would not always hold good. There were numerous patients who would not fit into the picture outlined in college days. The idea that the mind had a vast influence over the body gained currency and power. The conception of the mind and body as an inseparable unit is now influencing medical teaching more and more.

The word, psychiatry, literally means mind-healing. It deals with a sick or diseased mind, in distinction to psychology, which deals with the mind in its usual or normal state. The border line between them is very hazy, however, and just as a knowledge of anatomy and physiology is necessary to understand pathology, so a knowledge of psychology is necessary to appreciate psychiatry.

The family doctor has an advantage over any specialist in ministering to the diseased

mind of his patients, in that he knows the normal level for his patients, and their heredity and environment. He is in a better position to know that the father has been worried over the stock market, or that the wife is overloaded with church and social duties, or is a disappointed social climber; that John is keeping fast company, or that Jane is eating her heart out because the family treasury will not permit her to go to college—or, perhaps, take a trip to Europe with a wealthier friend.

The family doctor, however, is apt to be scared away from the very idea of being an amateur psychiatrist by the formidable barrier of words behind which the professionals have entrenched themselves. Perhaps the best part of Dr. Hall's article was the paragraph in which he said, "Highsounding, unusual, incomprehensible, unnecessary medical terms are doing the cause of mental medicine much harm. Psychiatrists themselves are largely to blame for this unhappy state of affairs. . . . an enormous increase in the diffusion of the knowledge of mental diseases would come to pass if every psychiatrist would persistently avoid the use of technical language". In his fascinating address, *The Psychologist looks at the Doctor*¹, Joseph Jastrow anticipated Dr. Hall's suggestion, and makes it clear that the human mind is not so complicated after all. For example, "Fortunately civilization has not as yet brought us to such a pass that we are all so sophisticated and involved that a doctor who is a bit of a psychologist can't see through most of his patients. He needs no more penetrating roentgen ray than common sense refined to a clinical gift. The majority is still of the ordinary garden variety of human folk, fortunately exempt from psychoanalysis because there isn't enough in them to psycho-analyze".

As Dr. Hall has shown, one of the chief functions of any doctor is to exorcise, so far as he can, the demon of fear, which is responsible for most human suffering. One of the greatest advances made in child training is the emphasis placed upon the harm fear does in childhood, and the necessity for making a

child as nearly fearless as possible. One of the best little books for any parent or doctor is Frank Howard Richardson's *Parenthood and the Newer Psychology*². But, unfortunately, fear does not cease with adolescence. The fears of adult life are as nerve-wrecking as are those of childhood. Perhaps those oftenest met with are the fear of financial reverse; of disease; of losing one's job; of failure to succeed in business (men) or society (women). It is not possible, of course, to allay all these fears in one's patients; but by cultivating the ability to get inside the patient's mind, as it were, and visualize its workings, the physician is in a better position to offer valuable advice. And by tactfully and patiently encouraging one's patients to pour out their troubles,—a mental catharsis, is it not, Dr. Hall?—the nervous tension is slackened, and relief is obtained in most cases. Often all that the patient needs is some wholesome, common-sense advice that any sensible, sympathetic man could give, but which carries far more weight because given by a doctor. Of the utmost importance in treating a sick mind is the correct amount of sympathy to manifest. There must be enough to combat the patient's feeling that his physician is not interested in his ailments, but not enough to create the impression that he is the victim of a very serious ailment.

That remarkable book, *Fear*³, by John Rathbone Oliver, gives a good idea of how to apply the principles of psychiatry.. Another book I can recommend as not too technical for an amateur is *Outlines of Psychiatry*⁴, by William A. White. Still another book which is as easily read as a novel, and which is as informing as it is interesting, is *Nervous Indigestion*⁵, by Alvarez.

One human interest story will illustrate how a family doctor has an unequalled opportunity to practice applied psychiatry. The late Dr. Shaw, whose son Dr. W. G. Shaw is carrying on his father's practice in Scotland County, was a famous doctor of the old school. He was once called to see the oldest daughter of a poor but proud widow—a girl whose illness had puzzled the neighborhood for days. She had no fever, complained of no pain, but simply lay in bed, refusing to speak or to eat. Dr. Shaw's skilled touch ruled out fever. A gentle, quick flick of the eyelids showed that she was not only awake, but suffering dumbly. After ordering every-

body out of the room, he spent a few minutes alone with the patient. When he came out of the house, his bearing showed that he had made a diagnosis satisfactory to himself. When asked for an opinion, he said only, "I know what she needs, and I am going to get it for her", and drove off at top speed. The old grannies supposed he was going to his office for some special medicine, but in a short time he returned, with a red-headed, bashful, country boy. The mother's anger blazed up, but was no match for the quiet authority of the old doctor when he said, "You sent for me to cure you daughter. I have brought the remedy she needs. If you stand between them and the love that God Almighty has put in their hearts, her blood be upon your hands". And so they were married and lived happily together until death parted them.

A very similar story is told in *Doctor Serocold*⁶, a novel of 300 pages devoted to one day's work of an English general practitioner. Anyone who reads it can hardly help being impressed with the unconscious use of psychiatry by this old village doctor. Indeed, how often has the expression been used in speaking of some such lovable character as the late Dr. Cy Thompson, or Dr. D. N. Dalton "He knows human nature". This means only that he knows the working of the human mind, and how to deal with it: and such a man is a psychiatrist, whether he ever heard the word or not.

References

1. *Journal of the A. M. A.*, July 16, 1927.
2. *G. P. Putnam's Sons*, 1926.
3. *Macmillan*.
4. *Nervous and Mental Disease Publishing Co.*, 1926.
5. *Paul V. Hoeber*, 1930.
6. *Doubleday, Doran & Co.*, 1930.

THE PROSTATE IN A GENERAL EXAMINATION

(Sohmer, A. E., in *Minnesota Medicine*, March 1931)

While it is not the purpose of this communication to go into detailed discussion of chronic prostatitis of non-veneral origin, and obstructing adenoma of the prostate, yet it is our wish to emphatically call attention to these two conditions in all routine examinations of adult male patients. Elaborate paraphernalia are not required, but a digital examination of the rectum can always be made and will rather frequently lead to an early diagnosis at a time when it will benefit the patient.

PEDIATRICS

For this issue, PERCY HARRIS, M. D., Scottsville, Va.

THE GENERAL PRACTITIONER AS A PEDIATRICIAN

In the daily routine of a general practitioner, the work he does as a pediatrician is probably that in which he is most interested and in which he feels himself to be most capable, for he has had many opportunities for perfecting himself in it. Not only has the modern physician had excellent courses at college in all branches of pediatrics but all the facilities of Federal and State agencies in this important branch of medicine are his to command. He can get all sorts of laboratory tests made quickly and absolutely free of charge. Then too, there is an enormous amount of medical literature to be had from many trustworthy sources, with all the very latest developments in pediatric work fully and ably discussed, and portrayed in illustrations. The medical journals of the present day give more space to the study of the diseases of children, and to the subject of child welfare, than to almost anything else; so there is no excuse for ignorance along these lines. The doctor who studies and seeks to keep his methods up-to-date finds no trouble in learning of the most advanced treatments to use in his practice among children, whether or not he calls himself a pediatrician.

In some respects the general practitioner has advantage over the specialist in the treatment of children, for in a majority of cases the family doctor has known these patients ever since they were born, and has supervised their pre-natal and post-natal care. He knows the parents, and can tell whether or not they have followed his instructions intelligently and carefully. He knows all about the children's surroundings at home, about the quality of their food, their habits of sleep, and even about their heredity in a good many cases. When a specialist is called in he has to learn all this mass of facts before he can do his best work for the patient. The general practitioner, however, should never be slow about availing himself of the ser-

ices of a specialist who has had superior training and who is fully equipped to meet all kinds of emergencies. When the symptoms are serious from the onset of the child's illness the general practitioner is not doing his duty either to the patient or to himself when he fails to call in promptly greater skill than his own. The family doctor who knows when to call in help and is not ashamed to do it, is the one who has the highest confidence and esteem of his patients.

The general practitioner has a great opportunity for excellent work in preventive medicine among his children patients. Mothers should be told to bring their children for periodic examinations, and should be urged to have all minor deformities and abnormalities corrected at once. Parents are rather prone to neglect these, and give the child slight attention unless something is seriously wrong. Careful records should be kept of these examinations. The weight and height should be recorded, also the condition of the child's teeth, eyes, ears, nose and throat, also the dates upon which the child was vaccinated, and was given toxin-antitoxin. Thoroughness in making these examinations cannot be too heavily stressed. The 15 rules set forth by the Virginia State Health Department give an excellent method of making these health examinations.

If the general practitioner is a good pediatrician it will greatly help to prevent the adoption of State Medicine, for the claim is made by the advocates of this measure that the high mortality rate among women and children, is due to the inefficiency of the general practitioner and that he should be supplanted by better trained physicians appointed by the State.

Perfectly Mannerly

A motorist pulled up and inquired of a yokel the whereabouts of a farm in the neighborhood.

"I'm sorry, zur, but I don't know of un," was the reply.

The motorist drove on. A loud shout recalled him. He reversed and came back to the shouter to receive this information:

"Here be my mate, Garge, an I don't know where it be neither."—*Yorkshire Argus*.

DENTISTRY

For this issue, C. C. HUBBARD, M.D., Farmer, N. C.

THE FAMILY DOCTOR AS A DENTIST

In these modern times when specialists are so prevalent it is sometimes hard to tell where the work of one man stops and that of another begins. The general practitioner, the family doctor, frequently has to be a dentist, however reluctant he may be to assume that office. His work as a dentist is both therapeutic and prophylactic; it is pre-natal and post-natal.

He is at the point of *opportunity*—the word primarily means “opposite the port”—and if he fails to enter the port of entry of the mind of the parent and child he has failed indeed. The home doctor has a greater influence with his people than anyone else, for he has the first chance to advise, instruct and lead them.

His first duty to the child begins before its birth, when he should instruct the expectant mother in the proper diet,—foods that will provide the lime, phosphorus, iron, and other minerals needed for the baby. Spinach, carrots, lettuce, greens, and many other leafy vegetables taken freely by the mother will give the child a healthy start in life, and aid very materially in providing him with a strong, beautiful set of teeth.

He should not fail to instruct the mother how to care for the baby's teeth as they appear; what foods it shall eat in order to make good teeth; and that the child itself must be taught as it grows older how to keep the teeth and mouth clean.

The nation-wide broadcast of “Amos and Andy,” while intended to promote the sale of a particular tooth paste, has done untold good in educating parents and children in the care of the teeth. Only the other day I heard a small child say “Amos says brush your teeth twice a day.”

If the family physician would insist that each child in the families for whom he practices is provided with a tooth brush and a good tooth paste, and taught to use them, he would be a public benefactor. Instruction as to the disastrous results of using the teeth as nut-crackers should be given.

I have extracted hundreds of teeth that ought never to have decayed, opened dozens of abscesses that should not have existed, and

seen countless teeth out of line because the first teeth were neglected. When such things come to the notice of the physician the time has passed for *constructive* treatment, and only *destructive* treatment will be of any benefit. A few days ago a schoolboy of 9 years came to me, short of breath, heart irregular—a valvular lesion. He had enlarged tonsils and adenoids and was partially deaf. I found one upper molar badly decayed, and one lower molar sitting in a pus pocket. Did this cause the heart involvement? Will it help it? I am expected to extract the teeth soon. What more can the family doctor do?

The human body is a wonderful machine to be able to throw off the poisons generated between the upper and lower maxillae. If the same amount of virulent pus was thrown into the circulation from some other part of the body, what would be the result? I do not venture an opinion.

Within a week I have seen caries, pyorrhea, abscess, teeth out of line, and inflamed gums.

Since I began the practice of medicine, 43 years ago, I have worked in a country territory, and have found it impossible to avoid extracting teeth; sometimes for children, many times for old folks who are not able to go to a dentist. I have never seen bad effects follow the extraction of an aching tooth or one that was abscessed. I have never had an abscess as a result of my use of procaine, but I never use it if the tooth is already abscessed. The thorough cleansing of the syringe with boiling water before and after using the procaine will almost invariably prevent serious after effects. I find it well to use either iodine or S. T. 37 to paint the gums before injecting the procaine, and have found nothing better to use as a wash for tender, bleeding gums than alum water, although there are on the market a number of excellent mouth washes.

For a few dollars the general practitioner can get enough forceps to do all the dental work necessary, and I would suggest the following: one for upper roots, one bow-shaped for lower roots, one bayonet-shaped for roots, one for lower molars, one for upper molars, and one for all straight-rooted teeth.

The use of tobacco, especially chewing and snuff dipping, has done much harm to the teeth and gums as well as the heart and kid-

neys. Lipping snuff, that is, pulling out the lower lip and filling with snuff, is a pernicious practice, and not uncommon in our State, and could hardly fail to produce inflamed gums if persisted in.

The extravagant use of sweets, whether at meals, at the fountain, or in candy, causes more decayed teeth, abscesses and pyorrhea than any other one thing can do. If the family doctor would advise the parents to buy fruits instead of candy for the little folks there would be much less tooth trouble and fewer dental bills to pay. I quote the following from a well-known medical journal: "Seemingly the investment of millions of dollars annually in candy and other sweets has only tended to increase the income of the dentists and the doctors. This seems to be the only logical conclusion to arrive at in the matter."

I have never seen a confirmed case of pyorrhea cured except by having the teeth extracted, but the physician who promises that all cases of hyperacidity of the stomach will be cured by this means is destined to be disappointed.

If the family doctor examines the mouth of the patient as carefully as he does the heart and lungs he will often have need to confer with the dentist, and will have a good bit of dental practice to do himself.

LABORATORIES

For this issue, JOHN W. MARTIN, M.D.
Roanoke Rapids, N. C.

THE FAMILY DOCTOR AND LABORATORY DIAGNOSTIC AIDS

For the family doctor to be a good family doctor it is essential that he make use of modern methods of laboratory diagnosis. And the ideal situation would be for him to be connected with some clinic, where his laboratory work could be done, or to have an office assistant who is trained to make routine laboratory examinations. The average family doctor has enough to keep him busy at the bedside and in his office, so that, he has not the time to do as much laboratory work as should be done in his practice, and many have not the temperament. They look upon it as a matter of detail or drudgery, with which they will not bother and they devote their efforts to other means of diagnosis.

If they are too busy to do their own laboratory work their practice should be remunerative enough to provide a nurse as an office assistant to make their examinations; if they have the time they should do the work themselves. To keep abreast with present-day medicine we cannot content ourselves with inspection, palpitation and auscultation; for there are many cases that defy the best of examiners without the aid of laboratory examinations, to say nothing of the considerable number in which *all* available methods fail. Routine laboratory examinations make diagnosis easier and favorably impress patients, many of whom know a good deal about their value.

Therefore if it is not possible to have our laboratory examinations made at some laboratory or by an assistant, it behooves us to do the work ourselves, for in many cases it is indispensable. And this does not mean just an occasional urinalysis is to be made. Every physician should be familiar with the use of the microscope and make use of it as occasion arises.

To mention a few cases where it is essential to make laboratory examinations: A physician doing a physical or health examination on a patient should not consider his examination complete without having done a urinalysis, hemoglobin test, red and white blood count and obtaining blood for Wassermann. In seeing a patient with suspected pyelitis, no matter how strongly all symptoms point to pyelitis, a positive diagnosis cannot be made without a microscopic examination of the urine. We cannot make a diagnosis of nephritis or diabetes without an examination of the urine. And the family doctor can make his own quantitative analyses of sugar so that insulin can be intelligently administered.

Take the common complaint of abdominal pain—a white blood count should be made in every case. It is difficult to make a diagnosis of appendicitis with only one symptom referable to the appendix, but with tenderness over the appendix and an increase in the leucocyte count, without a rise of temperature or nausea, we know we are dealing with an acutely inflamed appendix.

All of us know that a discharge from the male urethra is practically always due to infection with gonococcus, but we cannot be certain that a cure has been effected without

a prostatic massage and examination of a smear.

A cervical discharge is a very common complaint that we see, but we do not know whether we are dealing with a specific infection or a non-specific infection without examination of a slide. In throat infections none of us will wait on a laboratory report in order to give diphtheria antitoxin if there is much suspicion that diphtheria is present, and it is out of the question to wait on a report from the State laboratory, but if we had a small incubator, it would not require much time to make our own cultures.

Hookworm disease is not now as prevalent as it was in former days, but in all suspected cases an examination of feces should be made so that proper treatment can be instituted. Because of the time and care that it requires it is probably better for the family doctor to have his sputum examinations made at the State laboratory.

Blood for a Wassermann should be obtained in the cases of patients who give a vague history and non-conclusive symptoms.

In justice to our patients, every case of acute illness should have a chemical and microscopic examination of the urine and a leucocyte and differential count made, for oftentimes a correct diagnosis hinges on these examinations.

I have cited these specific cases in order to impress on the men doing general medicine, and especially the family doctor, the importance of having laboratory reports as guides in helping him to arrive at correct diagnoses. When we add routine laboratory examinations to our armamentarium it will be a distinct benefit to our patients and a lasting satisfaction to ourselves.

Well!

A motorist, who was picked up unconscious after a smash, opened his eyes as he was being carried into a garage close at hand. He began to kick and struggle. When he was afterwards asked the reason he explained that the first thing he saw was a Shell sign, and that "Some darned fool was standing in front of the 'S.'"

"I was sorry to hear of the death of your wife. She was a good woman."

"She was that, all right. She always hit me with the soft end of the broom."—*Pathfinder*.

UROLOGY

For this issue, JOHN C. BUCHANAN, JR., M. D.,
Winnsboro, S. C.

THE FAMILY DOCTOR AS A UROLOGIST

Professional honesty is a virtue which should be included in the armamentarium of every family doctor. By professional honesty I mean having a conscience so sensitive that it will not allow one to treat a patient symptomatically for a disease over a period of time unless there is definite evidence that such a disease is present, and when such a diagnosis cannot be made it urges or forces one to refer or direct such a patient to some one else who can make a more complete examination without much delay.

Although I once heard a well known urologist say that urology was the most blest specialty of any in medicine because one could see into, feel, or test the function of the various organs with which urology is concerned, yet the field of urology is full of pitfalls for the family doctor, "way out there 40 miles from nowhere," and demands much of professional honesty. But medicine has made great progress in recent years. So has the family doctor improved. The salt of medicine is saltier today. The family doctor today examines his patients more thoroughly. He knows the value of complete physical examination including an examination of the rectum and the blood. Similarly, in the field of urology the family doctor is doing better work. He has learned that by climbing the gutter of the urethra instead of walking on the smooth pavement of the peritoneum much information can be obtained. Catheterization of a patient, male or female, is of great value. In the male a urethral stricture may be accidentally discovered. Many urethral strictures can be treated successfully by the family doctor. The choice of treatment is slow dilatation, preferably with hard rubber urethral bougies, and cutting only when dilatation fails, or is impossible. These urethral bougies are inexpensive, easily sterilized and may be purchased from any surgical supply house. The use of rubber instruments, instead of metal, will be found to be of great advantage.

Then too, catheterization may show the presence of a residual urine. Residual urine, whether due to prostate, stricture, diverticulum or spinal lesion, must be eliminated. Usually such conditions have been present for several months and have resulted in a cystitis. The old dictum, "find and remove the cause and the cystitis will take care of itself" is quite true, but, the immediate desire of a patient with cystitis is relief. The family doctor can give a great deal of relief to such a patient by catheterizing after voiding and instilling some mild silver preparation into the bladder. In the meantime such a patient should be studied most carefully both clinically and in the laboratory for its cause.

The chronically infected prostate, which the family doctor so frequently sees and which has not given rise to retention, is to be treated by massage and irrigation by the gravity method, using very dilute solutions at weekly intervals. Where there is a residual urine present, its immediate and continual removal is very important, even if necessary by a retained filiform catheter. A filiform catheter is a useful article to keep always by you. Early operation on these obstructing, or chronic, unimproving, infected prostates, without obstruction, should be advised.

Among the acute urological infections which the family doctor sees, by far the most common is the urethritis due to the gonococcus. Gonorrhea has been and probably will always be treated by the family doctor. It is he who most often sees the patient first, and pride usually constrains the patient to rely upon his family doctor alone for treatment. Gonorrhea is one of the most variable of infections as to duration and amenability to treatment. Some infections are arrested without much difficulty and without complications, never being anything more than an anterior urethritis. Others involve all the lower limbs of the urological tree. The virulence of the gonococcus is a very large factor in determining the severity of the lesion, many others influencing, among which treatment is important. Weaker solutions are used for instillation, and rubber sounds or bougies are

passed earlier in the treatment of gonorrhea by the family doctor of today, than by his predecessor of a generation back. With the disease limited to the anterior urethra rubber sounds or bougies passed very gently can do no harm, and will insure freer drainage which is essential in the treatment of gonorrhea as well as in any other acute infection.

Pyelitis is frequently treated by the family doctor. A diagnosis of pyelitis in the female should be based only on the finding of considerable pus in a catheterized specimen of urine. Forcing of fluids is of utmost importance in the treatment, variation in the reaction of the urine by alkalies and acids is next, while the urinary antiseptics such as pyridium, caprokol, and urotropin produce striking results in some cases. Occasionally the family doctor sees a patient where in spite of all the infection persists, even after removal of all extra-urological foci of infection. It is this type of infection that responds to lavage of the kidney pelvis or the placing of an inlying catheter by a well trained urologist.

The advent of the routine Wassermann and Kahn tests has aided greatly in the diagnosis of obscure conditions for the family doctor. In the South, where the Negro population is so large, the incidence of syphilis is high. In a recent review of 124 unselected cases, I found that in 68 the Wassermann and Kahn tests were negative, while in 56 a positive test was obtained. The majority of the patients with a positive Wassermann or Kahn gave a history of syphilis. The family doctor has for generations relied upon mercury in some form in the treatment of syphilis. This I believe is the medication of choice and should be more in vogue in the treatment of syphilis today. The differentiation of the initial syphilitic lesion from that due to a chancre infection is difficult without examination of either stained smears or of fresh material under dark field illumination. When in doubt such a lesion should be treated locally, and anti-syphilitic medication promptly instituted.

There are many other urological conditions which can be well treated by the family doctor.

Urethral caruncle which is so often seen can be removed by the family doctor either in his office or in the patient's home. Usually a moistened tablet of novocaine applied against the caruncle, or an application of a 10 per cent solution of cocaine will anesthetize the area sufficiently for it to be removed by an electric cautery. It is very important to remove the base of the caruncle. Circumcision down through the ages has been allotted to the Jewish priest and the family doctor. However, in many cases circumcision can be avoided if the prepuce is retracted and the adhesions to the glans broken during the first few hours of life. The various kidney function tests can easily be done by the family doctor. The Mosenthal concentration test requires little apparatus and is often of great value. Anyway urinary findings should be based upon examination of 24-hour specimens. It is well to compare the day urine with that passed during the night, especially in the young, because one can detect easily by such a comparison a postural or lordotic albuminuria which is due to impairment in renal circulation rather than to a diseased kidney. The phenolsulphonephthalein test can be readily done by the family doctor. The efficiency of the kidneys to excrete this dye will aid him greatly in the diagnosis of his cardio-renal cases. Sometimes in infections of the kidneys one kidney bears more of the burden than the other. Thus treatment should be directed more toward this feebling member. Differential kidney function tests are therefore essential in this determination and can only be done by the urologist.

During the next few years a change is going to take place in the family doctor. Not long ago I heard a urologist ask a young physician who had been practicing medicine only three years, as he passed a cystoscope gently into the bladder of a patient, "Well when did you learn to do that?" The reply was, "I used to do this in my third year in medical schools." The urologist, much surprised, replied, "Well did you know I never saw a cystoscope until I was about to graduate?" Thus, although this young man was

practicing general medicine in a small town, he was making use of his training and caring efficiently for many conditions which formerly only a specialist would have treated, and which a lazier or more timid doctor would have referred. There are hundreds of similar cases.

The point I wish to make is this: The salt of medicine, the family doctor of today and tomorrow, ought to be and is better trained physician than was his predecessor, and he is going to undertake to treat conditions in urology and in all other branches of medicine, which formerly were cared for by the specialist; and he is going to be successful, to just the degree that he applies the sound reasoning that only a small proportion of the patients who consult him present conditions beyond the powers of a well educated and studious general doctor to diagnose and treat, that he has the honesty to refer these few cases, and that he has this ability to cope with all but these few cases to the mutual advantage of his patients and himself.

THE SIGNIFICANCE OF TEMPORARY BLINDNESS

(Benedict, W. L., in *Minnesota Medicine*, December 1930)

Except in industrial centers, where factory workers are exposed to poisonous products, impure alcohol and tobacco probably head the list of poisons that produce blindness in varying degree. Quinine in large doses as an ebolic, will produce optic neuritis with subsequent partial or total atrophy of the optic nerve. The arsenicals, used in the treatment of syphilis of the central nervous system, particularly general paresis, have been suspected of producing optic atrophy. Further study of the effects of these drugs, however, would seem to indicate that only those patients who would have lost their vision through the disease had no treatment been given, have gone on to blindness. The ocular conditions following injuries, diseases of childhood, septicemia, focal infections, constitutional diseases—such as syphilis, tuberculosis, diabetes, anemia, toxemia from chemicals and drugs, hypertension and nephritis—tumor of the brain, and a host of otherwise insignificant disorders which may terminate in partial or complete temporary blindness, constitute an interesting chapter in the history of medical investigation and practice.

DERMATOLOGY

For this issue, J. H. HIDE, M.D., Pungoteague, Va.

THE FAMILY DOCTOR AS A DERMATOLOGIST

In complying with a request to write an article for *Southern Medicine and Surgery* on this subject I fully realize that I am subjecting myself to some such criticism as was once passed by Thomas Macaulay upon the work of a certain author: "It is the best book written upon the wrong side of the subject," the thesis being one upon which the author was profoundly ignorant.

I am writing as a general practitioner to men in my own class only, and not for the learned skin specialist who can split hairs over the minutest details in dermal pathology.

We readily admit that an accurate diagnosis is most desirable, and in some cases practically imperative for reasonable success, yet in many cases Nature is very kind to us and cures our patients in spite of a worthless course of treatment. It is nevertheless pitiful to mistake a simple case of acne or impetigo contagiosa for the papular eruption of the second stage of syphilis, or a case of angio-neurotic edema for the eruption of poison ivy, or a case of erysipelas for a simple urticaria. This latter error may not only be pitiful from a scientific point of view, but even disastrous to our patient's welfare. We may advance further still in the gravity of error and mistake a case of variola for a case of pustular eczema, and the consequences may be far-reaching indeed.

I may go on in my contemplations, suggesting a great variety of the most distressing conditions and far-reaching consequences, due to possible errors in the diagnosis of skin disorders, until one may logically conclude that no family doctor, with only moderate attainments in the department of skin diseases, should be allowed to practice dermatology at all. This course of reasoning, however, may be applied to almost all the departments of medicine since the days of specialism, and it seems that quite a number in the profession are applying it quite vigorously now. Indeed, to some it appears that we, as family doctors, will soon be kicked out of the back door of the profession, and will soon represent only a name of the past—of course honorable by tradition, but nevertheless obsolete and practically useless.

Now, as one not enjoying such a picture of annihilation, I am ready to contend for the general practitioner every foot of ground that naturally belongs to his field of practice—namely, at least nine-tenths of all the so-called skin diseases.

First Feature of Observation.—I wish first to emphasize the obvious fact that a very large proportion of what are called skin diseases are not diseases at all, a fact which will impress us as more and more significant as we learn to make more accurate discriminations of actual disease and its effects. Many of these so-called diseases are local symptoms of specific diseases; others only a part of a symptom-complex of disordered functions of one or more organs of the body; and in still others the outward manifestations of disturbed metabolism which may be in the circulatory system, in the skin itself, or in both. Notable illustrations of this first statement are found in the exanthemata; in the second are found cases of urticaria; in the latter variety the examples will be taken up later.

Now it seems very obvious that measles, rubella, scarlatina, varicella and variola, not being strictly skin diseases, must be treated best by the general physician who gives his attention to the conditions of his patient as a whole and not merely to local manifestations of some veiled condition. The same may be true in many other skin disorders of constitutional diseases. I don't intend to imply that the competent skin specialist does not give close attention to the constitutional side of skin disorders; but that this side of the subject is within our field, and that he has to invade this field before he can really be proficient himself. In other words, in a large proportion of his cases in dermatology he requires the knowledge in this line of study that we are equally familiar with ourselves, and for that reason he may be eliminated.

Again, let us take the eruptions of syphilis. Who should handle these any better than the general practitioner? Does he not see in his daily practice every phase of its insidious nature? How can the average skin specialist be more familiar with this disease than the man who has to seriously consider its presence in a large proportion of his practice? So we may say that the skin specialist can easily be eliminated here.

Let us again look at the various forms of urticaria. These, as I have already intimated, are only symptoms of a variety of disordered states of various organs, often the stomach, at times the organs of excretion, the vascular system, and even the correlating structures of the nervous system itself. To turn cases of this class, regardless of name, over to a skin specialist, to me would appear absurd. So it is with a large percentage of skin disorders that are classed under the head of a simple dermatitis—a general term that may be used in dermatology much as we use the word rheumatism in general practice to denote any one of a great variety of conditions of different origin, pathology, and import. The very nature of these skin troubles, owing to their origin and the class of patients they usually attack, may require extensive knowledge of the condition of the patient as a whole, in any given case, his habits, occupation, environment, his former history and even his hereditary tendencies. Added to all this we sometimes find underlying causes that to the untrained eye may appear indeed obscure and remote. I recall just here a case in my own practice of a persistent and extensive form of dermatitis involving almost the entire skin of both legs of a young lady. The eruption spread in large irregular spots from the ankles to above the knees, resembling in appearance and burning sensation a mild erysipelas, but there was little or no fever. My first suggestions as to the nature of the trouble were very discouraging to the patient and my proposed treatment was flatly rejected in favor of local, palliative treatment. By local applications, with a little attention to the general system, the eruption would disappear for a week or two only to return again as soon as such treatment was discontinued. The case doubtless would have been pronounced by the skin specialist as a severe case of erythema multiforme. Whatever might be its proper classification the real thing I was interested in was its cause, and how to remove this. An examination of the patient revealed a very delicate, anemic and apparently undernourished young lady—a tuberculous suspect, with enlarged and badly diseased tonsils full of pus, and enlarged cervical glands. I insisted that these tonsils entered into the etiology of her state of ill-health and were probably the dominating factor in the causation

of the skin eruption, and hence, should be removed. To this she consented and I removed them, and immediately put her on a nourishing diet. The skin eruption permanently and almost immediately disappeared; she soon gained rapidly in weight, improved greatly in general appearance, and was restored to a much better state of health in every way.

Such illustrations, with their obvious lessons, thoroughly convince me that hundreds of cases of skin disorders, classified by many under definite names and supposed to be the same thing on account of having a similar appearance and pathology, are in reality not the same at all because in their very formation are the reactions of widely varying causes, and they often stand in a different relationship to the various organs, glandular structures, as well as the nervous mechanism of the body, itself. This being true, an accurate, comprehensive diagnosis of a skin disease consists in a far deeper view of the case than merely noting its pathology and ascribing it, accordingly to some artificial class, a certain name—as eczema, urticaria, erythema, dermatitis, pruritis, etc. The causes of these skin disorders must be known and their correlative nature toward the organs and other structures of the body considered, before we can say our diagnosis is accurate and complete. If this course of reasoning is correct it seems to me we have little or no need for the so-called specialist just here; for we are certainly within the bounds of our own field.

I will now refer to the part that imperfect metabolism plays in the etiology of some skin disorders. I will give a hypothetical case, such as I have observed on successive occasions in my practice. Here are four patients coming to my office, the first suffering from an annoying pruritis, the second with eczema, the third with furunculosis, and the fourth with gangrene of the foot—each representing a skin disorder, not a skin disease. Whatever might be your classification here they all should be certainly classified as different phases in the symptomatology of a specific disease in general practice, namely, diabetes mellitus, and each of these skin disorders may be regarded as a certain phase or degree of intolerance in a disordered carbohydrate metabolism. From a nutritional standpoint a somewhat similar course of observations

might be applied to quite a number of other skin disorders of an entirely different nature, such as beriberi, scurvy and pellagra.

In presenting these illustrations I simply wish to emphasize the thought that the so-called skin diseases cannot be properly studied alone; for the skin not only represents a protective covering for the more delicate tissues of the body, it is an integral part of the body as a whole; and is in the most delicate, responsive relationship to the organs of digestion, those of internal secretion, the nerves, blood vessels, lymphatics and even the blood itself. I might go on multiplying such illustrations almost indefinitely, including almost every phase of dermal pathology, and ranging from the simplest form of skin irritation to that of malignant epithelioma; and the inference would be that such cases should be treated by the general practitioner.

Second Feature of Observation.—This department of medical science and art calls for a wider range of knowledge than most of us ever realize until we have really grappled with its numerous problems. Careful study of the physiology of the many organs and the complex internal secretions, of the nervous system, of parasitic activity, of bacterial invasions, of the immensely numerous unhygienic conditions of both rural and metropolitan life, of social problems of overcrowding and those of industrial manufacturing, which are productive of poisons and irritants increasingly yearly by the thousands—all this study furnishes us only a limited view of our course of study.

To be a real dermatologist, then, we must know general medicine. Short-cut measures, consisting, as a substitute for such knowledge, of a profusion of strange technical expressions in dermal pathology with exposures to ultraviolet and infrared lights, though they impress and astound the neighbors, will not do. Indeed, with a display of these in treating the mere symptoms of many unknown conditions we are playing upon the level of the empirical quack, and must in the long run fail in the great drama of life.

CONCLUSIONS

In view of his great wealth in general medical knowledge embracing the human body as a whole, its physiology, its nervous responsive mechanism, its reactions toward metabolic disturbances, its natural changes through in-

fancy, childhood, adolescence, maturity and senility; along with his knowledge of outside influences, parasitic and bacterial invasions in the etiology of skin disorders, including almost countless conditions of environment in the social and industrial processes of our state of civilization, I see no palpable reason why the well-informed general practitioner might not be the best man in our profession to study and practice dermatology.

OBSTETRICS

For this issue, ROY C. TATUM, M.D.
Statesville, N. C.

THE FAMILY DOCTOR AS AN OBSTETRICIAN

After reading the department editorial, "The Family Doctor and the Obstetrician," in the January *Southern Medicine and Surgery*, it strikes me that the department editor has a very poor opinion of the family doctor as an obstetrician. As a family doctor, who does his own obstetrics, I want to set forth the other side of the picture, the family doctor's side.

The department editor specifically would have family doctors abstain from the following group of cases:

1. Cesarean section, 2. version and extraction, 3. breech extraction, 4. prolapsed cord, 5. prolapsed hand, 6. face presentation, 7. brow presentation, 8. occiput posterior, 9. uterine inertia, 10. placenta praevia, 11. abruptio placenta, 12. forceps where there is slight disproportion between birth canal and baby, and 13. low forceps—doubtful.

The department editor reservedly and reluctantly consents to allow the family doctor to apply low forceps "where it is indicated, if patient is completely anesthetized." There is a rather strong hint here that the family doctor probably would not know when low forceps would be indicated. I wonder if the department editor would like for the family doctor to call in the obstetrician, in case he is contemplating using low forceps, and get his opinion as to whether or not low forceps is indicated. If so, and in case the opinion is for low forceps, all the family doctor has to do is to have the patient completely anesthetized, probably by a professional anesthetist, and proceed with the low forceps delivery.

Since the department editor has reserved for himself and his brother obstetricians the above named dozen abnormal conditions for his and their endeavor, there remains only one condition for the family doctor to handle, namely, occiput anterior, either right or left. As these are all normal cases, unless there should be a prolapsed cord, placenta praevia, uterine inertia, abruptio placenta, contracted pelvis, abnormal pelvis, or some other abnormal condition, such as post-partum hemorrhage which would claim the attention of the obstetrician, the family doctor is at liberty to proceed with the L. O. A. and R. O. A. But in case there should be an abnormal condition present in occiput anterior, the department editor would have the family doctor refer all his obstetrics to the obstetrician for his diagnosis, care, advice and delivery. In return for this, the family doctor receives the coöperation and best wishes of the department editor.

This is far from complimentary to the family doctor and leaves the impression that the obstetrician has very little infant or maternal morbidity and mortality and that Utopia will have arrived when all obstetrics is done by the obstetricians. He yearns for statistics of comparison between his work and that of the family doctor. The present writer would like to see such statistics if proper contrast were made between the type of care, environment and conveniences the obstetrician has in comparison with those the family doctor has. It is well known that the family doctor takes them as they come, rich or poor, white or black, and quite often does not see the patient until she has been in labor some time, through no fault of his own but through neglect of the patient.

The family doctor is doing good obstetrics and deserves credit for having no more infant and maternal mortality or morbidity than he has at present. The rank and file of citizens are not awake to the importance of prenatal care. In spite of the fact that it is the usual custom of the family doctors in this country to make no charge for prenatal care, there are many obstetrical patients who never avail themselves of it. In case after case the doctor is never called, or even engaged, until delivery is at hand.

The writer is conscious of the fact that the family doctor is losing and has lost consider-

able prestige among the public, and wonders if the cause cannot be traced to the specialists themselves. With specialists of every variety taking a pot-shot at the family doctor on every occasion, there is ample cause for complaint on the part of the family doctor and sufficient explanation of why the public holds the family doctor in such low esteem. Again the specialists have tooted their own, and each other's, horns so long and so loud that the public has reached the conclusion that, par excellence, the acme of art and science as well as skill and knowledge reposes in, and only in, specialists. Witness the man in S—who when told that his mother, 80 years old, had influenza and had developed an intermittent pulse, wired his folks to get the best cardiac specialist in attendance at once. No consideration for the family doctor who had been her family doctor for 40 years. Witness the matron who called her family doctor in for conference about some discomfort in her lower abdomen. The family doctor suspected pregnancy, fourth month, and so informed the patient, who remarked that she would run over to see Dr. S—who is an obstetric specialist in a town 40 miles away, for diagnosis. The family doctor remarked that a diagnosis of pregnancy at fourth month was not so complicated as to require a specialist and that he could, in a moment or two, confirm the diagnosis, which he did.

The family doctor is equipped for and is doing good obstetrics. He does not limit his field to cutting the cord, dropping silver nitrate in the baby's eyes, and filling out the birth certificate. His operative equipment consists of one bag, packed and ready at all times, for the ordinary uncomplicated case, and another bag, equipped and ready, for forceps delivery or for incomplete abortion. This second bag is equipped with sterilizer, two or more pairs of forceps, specula, tenaculum forceps, uterine dressing forceps, uterine packs, needles, needle holders, scissors, gloves and gauze. A third bag is equipped particularly for eclamptic cases and contains glucose solution, syringes, infusion outfit, and a supply of drugs, usually used in such cases.

With the above mentioned equipment, the family doctor has ready, at a moment's notice, the necessary equipment to take charge of any case of labor, normal or abnormal. He

thus takes them as they come and usually does a good job of it. Whether it is a case for version and extraction, breech extraction, prolapsed cord, prolapsed hand, face presentation, brow presentation, occiput posterior, uterine inertia, placenta previa, abruptio placenta or forceps high or low, or a normal case, it is a job for his best judgment and greatest skill. If it is a case which has been under his care during all or a part of pregnancy, he knows what is likely to happen and prepares for it. If it is a case to which he is called only after labor has been in progress several hours, he goes prepared to take care of anything which may happen. The only case which the family doctor is not capable of handling is cesarean section, and he is always ready to refer such a case to the best general surgeon in the territory, or to an obstetric specialist, if one be available. In fact, this writer feels that with a proper coöperation of a good general surgeon, we could eliminate the specialty of obstetrics and get along just as well, and the obstetric patient would receive just as competent service as she now receives at the hands of the obstetric specialist.

No, the high infant and maternal mortality and morbidity cannot be laid at the door of the family doctor. We refuse to accept the blame. Puerperal sepsis is so rare in our practice that we are convinced that most of the few cases result from some chronic infection in the patient herself, such as chronic salpingitis or chronic endocervicitis, usually of gonorrheal origin. If we get these cases in time we can clear them up and carry them through a safe puerperium; otherwise, they go in labor, call the doctor, the chronic infection flares up and the doctor is credited with a case of sepsis. I am firmly convinced that 99 per cent of so-called puerperal sepsis is not puerperal sepsis at all but is an acute exacerbation of some chronic cervical or tubal infection, brought on by the trauma of labor. When the surgeons tell us that 50 per cent of the women on whom they operate the operation is for infection of the fallopian tubes, is there any wonder that occasionally sepsis follows labor?

No, the family doctor does not take the blame for the high infant and maternal mortality and morbidity incident to delivery. Rather he lays the blame to an indifferent

laity who do not appreciate the importance of periodic examination and watchful care of the obstetric patient, even when told and advised by the family doctor. Only about half of the cases the family doctor delivers have engaged him previous to labor; consequently, they have had no prenatal care. This is the class of patients in whom we have trouble and of course the obstetric specialist could do no better with such a class of patients. Rather, then, let us lay the blame for the "poor obstetrics" to an indifferent public, and not to the family doctor.

In order to bring about better conditions in obstetrics in this county, the family doctors have made a practice for several years of not charging for any prenatal care which the patient receives. It is generally understood that an obstetric patient can engage her doctor at the beginning of pregnancy and receive all her prenatal care for nine months without cost. This free service includes a general examination when engaged, and as many blood pressure readings, weighings and urinalyses as the patient will come for. The family doctors have let it be known among midwives that they can bring obstetric patients to them for prenatal care without cost. More recently, a group of family doctors in Statesville have offered to conduct a free prenatal clinic once a week to all who will come. The offer was made to one of the lay organizations, but lay indifference won—the clinic was not organized.

The department editor dreams of a Utopia, in which the family doctor will retire from the obstetric field and refer all obstetrics to the obstetrician. The family doctor also dreams of his Utopia, when every obstetric patient will engage him early in pregnancy, report for examination at regular times, and correct all defects which he finds and advises corrected. When such a Utopia arrives, our infant and maternal mortality and morbidity incident to delivery, will be reduced almost to the vanishing point.

The writer is well aware that there is a certain social prestige derived from being able to announce that little Johnny was "caught" by Dr. So-and-So, the obstetric specialist, and that his bill was perfectly enormous. There is another class of patients, really able to pay, who demand a specialist for every ailment, and who necessarily come in the do-

main of the obstetric specialist. We cede these two classes of patients to the obstetric specialist. We reserve to ourselves all other classes of obstetrics.

CONCLUSIONS

1. Family doctors are doing good obstetrics.
2. Family doctors are capable of handling all cases of obstetrics except cesarean section.
3. Family doctors are not responsible for the high infant and maternal mortality and morbidity incident to labor, but place the blame for this on an indifferent laity.

INTERNAL MEDICINE

*For this issue, H. W. LEWIS, M.D.
Dumbarton, Va.*

THE FAMILY DOCTOR AS AN INTERNIST

It is impossible for me to separate the family doctor from the internist, as, to a great extent, they are one and the same.

Daily the family doctor is called to see diseases of the heart and vessels, the lungs and chest, gastro-intestinal tract, liver, kidneys and thyroid, cases of diabetes, anemia, malignancy and other diseases, all of which are in the realm of internal medicine.

The family doctor should be, and is, able, with the aid of the present diagnostic equipment, to diagnose and successfully treat the great majority of these cases.

These men should and do, refer cases to the specialist for a clearer diagnosis, and in some cases there is great benefit to both patient and doctor; but these cases should not be sent on too hastily, for often the inconvenience and extra expense will be an unnecessary hardship on the patient with little, if any, benefit derived therefrom.

However, do not understand me to underestimate the specialists; far from it. They have often helped me and other doctors out of trouble, and have been a godsend to the patient many times.

But, there is the real internist, the isolated doctor who does not make his diagnoses from reports handed him from the laboratories, but from his years of rich and varied experiences, by thorough bedside examination and observation, plus such laboratory examinations as are indicated in individual cases, all weighed by common horse sense. These

are the men who represent a very important, if not the most important, part, in the practice of medicine, and I honestly believe these men make correct diagnoses in the vast majority of cases which can be diagnosed.

The old family doctor of the past, who was the first to greet the human being when he appeared on this earth, treated him through all his sicknesses, and was the last to whom he bade farewell with his closing breath, is rapidly passing out in this impatient age; greatly to the loss of the mass of the people.

What is the cause? Is there a lack of examination and service rendered? Are good roads and rapid and convenient modes of transportation responsible? Has the public become infected with "hospitalitis" and "specialistitis?" Or perhaps, it is just another form the public has taken of "keeping up with the Joneses."

THERAPEUTICS

*For this issue, K. G. AVERITT, M.D.
Cedar Creek (Fayetteville, R. 5), N. C.*

THE FAMILY DOCTOR AS A THERAPIST

In this age of well trained specialists and good hospitals in reach of almost every patient, the field for the family doctor is much less than in former days, and he would soon cease to exist, if the financial condition of the people and the economic condition of the country were such that every county and hamlet could build, equip and support a hospital in which the cost of nursing, treatment and the care of specialists could be furnished at a price every one could pay.

Since such a financial and economic condition does not now exist, and probably will not exist for a long time to come, there is and will continue to be, till better economic conditions prevail, a necessity for the family doctor, and to properly and usefully fill his place, he must be a good therapist.

To be a good therapist, a doctor must have some knowledge of almost everything. He must remember that many conditions he is called upon to treat are psychological, and be prepared to ease the mind of the patient as well as his or her body. But above all the things he must know, he must have a very good, practical knowledge of physiology, pathology, bacteriology, diagnosis, materia medica and therapeutics.

The physician must have a good knowledge of physiology in order to understand the functions of the various organs of the body in a state of health. He must have a good knowledge of pathology to understand the changes produced by disease in order that he may know how to treat and correct these changes. He must be familiar with bacteriology to understand infectious diseases and to treat and prevent these diseases. He must be a good diagnostician as it is impossible to properly treat a disease unless you know what you are treating. It should be the aim of every physician to keep himself thoroughly posted on all diagnostic methods and be constantly on the alert for new methods.

To successfully treat a disease a physician must have a very thorough knowledge of drugs, many biological products, and all other therapeutic agencies, including dietetics. He must be well informed about the drugs commonly used in the treatment of disease, their physiological effect on the human system, the doses needed in every case and when and in what diseases to use the drugs. He must be acquainted with all other therapeutic measures, because they are often more important in the treatment of some diseases than drugs. The last statement is especially true of dietetics in the treatment of the deficiency diseases.

When a physician has prepared himself as I have outlined, and has added as much other knowledge as he can acquire to his accomplishments, he is, in my opinion, fully competent to treat a large majority of the diseases that afflict man. There will always be diseases and conditions requiring the services of a specialist, but such a physician will be able to recognize these diseases and conditions and refer them to the proper specialist.

The family doctor does not have as much time to investigate the mysteries of diseases and to undertake difficult diagnostic procedures that the internist has; but somebody has to treat the sick, and he can put into execution what the internist has worked out, and I believe he is the safest, most economical and best man for the work under existing conditions, and that his place in the profession can not yet be dispensed with.

"How come you're working today? Don't you know what the Fourth of July is?"

"No, I'm not good at fractions."—*The Hot Slug.*

This Department and those following in this issue are not parts of the Family Doctor-Specialists discussion. A few contributions to that discussion which did not come in in time to appear in this issue will be found in the issue for May.—Ed.

EYE, EAR AND THROAT

V. K. HART, M.D., *Editor*

SUDDEN BILATERAL DEAFNESS

By deafness is not meant merely an impairment of hearing, but high grade loss of hearing.

By far the most common cause of a sudden bilateral profound deafness is central nervous system syphilis. The meninges, the 8th nerve, or both are attacked. This is called by Mackenzie, neurolabyrinthitis syphilitica. A negative blood Wassermann does not rule it out. I recently had one such case, but the spinal Wassermann was 4-plus. A case is now under observation in which the involvement is only moderate, and yet both blood and spinal fluid Wassermans are 4-plus.

The suddenness of onset may be misleading, but, if bilateral, syphilis should always be kept in mind. Some authorities have placed the percentage of bilateral luetic inner ear deafness as high as 80 per cent of the total number of such cases. A functional tuning-fork test will quickly differentiate the inner ear or perceptive type of deafness from other types.

Granting an examination shows a marked perceptive deafness, the question at once arises, is it an end organ (labyrinth) lesion, or is it a nerve lesion (neuritis)? There is only one differential test. This is the galvanic examination. If the caloric or cold water irrigation gives no reactions at all, we proceed at once to the galvanic test.

This is done by placing one electrode behind or in front of the ear and another in one of the patient's hands. Each ear can be tested separately and normal reactions occur at about 4 ma. of current.

The galvanic test acts on both the end organ and the nerve proper. If, as above suggested, there is no caloric reaction but a residual galvanic reaction occurring anywhere from 4 to 10 ma., we can say that there is residual nerve function and, therefore, a dead labyrinth or end organ lesion. If there is no

reaction to either caloric or galvanic within reasonable limits, there is then a nerve lesion. This is the finding in a specific neuritis. The value of galvanic investigation lies wholly in making such differential diagnosis.

MacKenzie believes that congenital syphilis is more prone to attack the labyrinth directly rather than the nerve. Such he calls labyrinthitis syphilitica tarda. This could occur via the vascular system without an actual involvement of the central nervous system. Of course, there would be other signs of a congenital lues.

However, there are other causes of sudden deafness of inner ear origin which should be kept in mind. We have recently seen one such case following the administration of 20 grains of aspirin daily for 6 weeks followed by 120 grains of cinchophen. The deafness was absolute and both blood and spinal fluid Wassermanns negative. It has been shown clinically that salicylism and toxic symptoms from cinchophen have much in common. There has been much written lately relative to acute yellow atrophy of the liver following the administration of cinchophen; the ear may also be affected as by quinine. Sufficient attention has not been called to this fact.

In the above case, there was no caloric response (dead labyrinth) but residual nerve function; in other words, an end organ or peripheral lesion. This is what we would expect in a drug toxemia with no selective central nervous system action. Quinine acts peripherally on the inner ear.

Another sudden profound deafness has been seen recently following marked alcoholic excess 3 weeks prior to onset. Both blood and spinal fluid Wassermanns were negative. There was neither caloric nor galvanic response and, therefore, a high grade neuritis which we interpreted as alcoholic.

A typical otosclerosis will also give bilateral inner ear involvement. The onset is not so sudden and the involvement not so marked. In fact, the history extends over a period of years. Moreover, there is usually a definite family history as this disease has an unmistakable hereditary tendency. This type then would hardly be mistaken for the other classes of inner ear involvement.

"When you told Jack you'd be a sister to him, what did he say?"

"He had the nerve to ask to borrow my car so he could take another girl for a ride."

ORTHOPEDIC SURGERY

*For this issue, T. BOYKIN CLEGG, M.D.
Greenville, S. C.*

THE EFFICACY OF BLOOD TRANSFUSIONS IN MULTIPLE OSTEOMYELITIS

Repeated small blood transfusions in multiple osteomyelitis have proven to be of such advantage in recent cases that I feel that it is worthy of being again called to the attention of the profession. The benefits are seen both in acute and chronic stages; but the most remarkable improvements are manifested when used very early in children with multiple foci where the cases seem almost hopeless. Drainage and nursing care are the only procedures needed, other than repeated blood transfusions. Drainage in most every case is necessary in several areas, but oftentimes one hesitates to do a drainage because of the extreme condition of the patient. In such cases a transfusion before the drainage is indicated. Recently this was impressed on me very forcibly by two infants having been brought in several days after the onset, with numerous foci. They were in extremis, and had already had numerous incisions. We immediately began transfusions, with remarkable improvement. Temperature dropped to about normal within a few hours. They apparently were relieved of the pain and began to take nourishment. The recovery within a relatively short time was complete, without sequestration of bone, and without limitation of motion in the adjoining joints in spite of the fact that the infections were at, or near the epiphyseal line.

The quantity of blood given was 1.5 to 2 per cent of the body weight. It is possibly better to give only 1.5 per cent in children so as to not overcrowd the circulatory system.

As the method used was a direct one it was necessary to expose the vein. In both these cases considerable difficulty was encountered in selecting a vessel to use, as most accessible areas were involved in the disease; here the popliteal vein was used.

In older children and adults the outcome is not so favorable, but in most instances the cases were seen after there was considerable bone destruction, these resulting in either sequestration, shortening of the limb, or ankylosis of the joints. Even in these cases the transfused blood served as the proper impetus to the improvement of the patient.

In spite of the fact that these conditions may be considered as bacteremias, the original source might be from some upper respiratory infection, or from some infected areas on the surface of the body. Whatever the source, it does not seem to alter the end results.

NEUROLOGY

OLIN B. CHAMBERLAIN, B.A., M.D., *Editor*

A REMEDY FOR TRIFACIAL NEURALGIA

At the risk of calling attention to an article which has been read by the majority of his readers, the department editor wishes to comment upon Glaser's "Treatment of Trigeminal Neuralgia with Trichlorethylene"—*Journal of the A. M. A.*, March 21, 1931.

There are few of us who do not have to deal with this terrible disorder at one time or another. For the severe cases, and those which have been present for a long time, radical surgery is the best recourse. Glaser summarizes concisely the various steps whereby the present excellent results are attained. There are, unfortunately, comparatively few surgeons skilled in this field, and therefore for some patients the expense of such operative procedure is almost prohibitive. Furthermore, trigeminal neuralgia frequently comes on in the latter part of life, and the patients are not good operative risks, or are fearful of radical surgery. These various considerations make it highly desirable to find some more conservative type of treatment which will give the sufferer relief from the torture of tic douloureux.

Schlosser in 1903 and other neurologists since have sought to combat the condition by alcoholic injection of the affected branches of the trigeminal nerve. This measure, if properly carried out occasionally gives relief which is permanent, but generally the pain recurs in several months. Injection is not an easy procedure, and unfortunate results, such as corneal ulceration sometimes follow.

Medical treatment is generally of almost no avail; even morphine frequently fails to stop the pain, and the danger of utilizing the derivatives of opium in such a chronic disorder is obvious. The coal-tar products affect the pain about as much as water. The multiplicity of drugs recommended in the older pharmacopeias point to the futility of their exhibition.

For these reasons the suggestion that there is a drug which has specific action upon the sensory fibers of the fifth nerve has provoked much interest.

In 1915 Plessner presented before the Berlin Medical Society four workers suffering from the chronic effects of an acute poisoning. A study of these workers showed that they were exposed to trichlorethylene, and it was to this drug that these symptoms were attributed. Immediately following the exposure to this drug, these men developed vertigo, nausea, vomiting, swelling of the optic disks and bilateral anesthesia of the trigeminal area, without motor involvement. Within a few weeks, these acute symptoms subsided. At the time of Plessner's presentation, eight months had elapsed since their exposure. These men had a bilateral loss of sensation definitely confined to the trigeminal distribution of the face; taste was lost in the anterior two-thirds of the tongue to sweet, sour and salt, but they were able to distinguish bitter. The corneal reflex was absent in two men, diminished in one and undisturbed in the other. None of these men demonstrated any paralysis of the muscles of mastication, which indicated a specificity of the drug for the sensory portion of the trigeminal tract. Oppenheim, who was present at this meeting, suggested that this drug would be invaluable in the treatment of trigeminal neuralgia.

A year later Plessner reported excellent results in the clinical use of trichlorethylene. His first series indicated a result of 85 per cent cures. This high ratio of cures has not been obtained by later workers. However, consideration of the various series showed practically complete cure in 15 per cent, and amelioration of symptoms both as to frequency and intensity of attacks in 51 per cent. This shows the drug to be a very valuable one, and worthy of a trial in all cases, especially early ones.

For the treatment of trigeminal neuralgia, the drug should be inhaled three or four times a day, from 20 to 25 drops being placed on a piece of gauze. The inhalation should be continued until the odor has entirely disappeared. This should be carried out over a period of a month to six weeks before its use is discontinued. The drug occasionally produces vertigo, sleep and drowsiness; therefore, it is well to take the inhalation in a re-

cumbent position. After the pain is relieved, it is not necessary to continue the inhalation of the drug daily. As a prophylactic measure it is extremely wise to inhale this drug every two or three months for a period of three consecutive days. Occasionally the patient may complain of a tingling sensation in the extremities which, however, passes off rapidly. Oljenick reported a man who began to shriek and sing following inhalation. The best results have been reported in cases of short duration and those involving the mandibular division. Seelert was of the opinion that trichlorethylene should be given by mouth in gelatin capsules in a dosage of 0.25 Gm. two or three times a day. Bendzulla believed that its therapeutic results were obtained more efficiently and more rapidly by inhalation than if given by mouth.

After a review of several personal cases Glaser comes to the following conclusions.

1. The result of a statistical summary shows that approximately 15 per cent of the reported cases of trigeminal neuralgia treated by trichlorethylene were completely relieved of symptoms.

2. The percentage of partial relief varies with the different investigators. In the present series 13.3 per cent were partially relieved; while in Seelert's series 74 per cent were partially relieved.

3. Trichlorethylene therapy is ideal in the treatment of trigeminal neuralgia in those cases in which the drug is effective, as the pain is relieved without a resulting anesthesia.

4. Trichlorethylene is not toxic.

5. The action of trichlorethylene in the relief of trigeminal neuralgia is unknown.

6. It is doubtful that trichlorethylene is the original drug responsible for the toxic symptoms and the anesthesia in Plessner's industrial workers.

The locomotive was not behaving as a true locomotive should. First it would move forward a hundred yards or so, and then, with a good deal of puffing, it would shift back to its original position. For ten minutes this had been going on, while the passengers raved all along the train.

At last one of them, unable to contain himself any longer, hailed the conductor.

"What on earth is the matter?" he demanded.

"Well," the conductor said, "I'm not sure, but I think the engineer is teaching his wife to drive."

Special Article

EXPERIENCES WITH INTRAVENOUS UROGRAPHY

CLAUDE B. SQUIRES, M.D., Charlotte, N. C.
From the Crowell Clinic of Urology and Dermatology

In 1923, Osborne, Sutherland, Scholl and Rowntree published an article in the February 10th issue of the *Journal of the American Medical Association* on roentgenography of the urinary tract during excretion of sodium iodide. They were really the first to show that the bladder and kidney pelvis could be outlined following intravenous injection of large doses of sodium iodide, and to them really belongs the full credit for demonstrating intravenous urography. They came to the following conclusions:

1. By the method described, it is possible to obtain roentgenograms of the urinary tract during the excretion of sodium iodide following its intravenous or oral administration.

2. The method uniformly gives excellent and accurate shadows of the urinary bladder and renders reliable information relative to its size, shape and location.

3. It has been partially successful in depicting the renal pelves and the ureters in a limited number of cases.

Recently von Lichtenberg and Swick have introduced uroselectan which is a pyridine derivative containing approximately 42 per cent of organically combined iodine. This substance is readily soluble in water and is eliminated in a concentration sufficient to get a satisfactory urogram in most instances.

We very seldom hear of reactions following administration of uroselectan intravenously. When reaction occurs it is usually passed off by saying that there was some discomfort at the site of injection or that the patient complained of a sense of warmth occasionally with a flushed feeling of the face and head. These symptoms are frequently described as transitory and as disappearing quite rapidly.

Our experiences with uroselectan have been fairly satisfactory and without reactions except in three instances. In these the reactions were so marked that for a time we felt that the use of uroselectan had been over-emphasized, and that only the good results had been brought out.

It is true that we got beautiful skiagrams



PULVULES SODIUM AMYTAL LILLY

USED ORALLY
OR RECTALLY

The preanesthetic use of Pulvules Sodium Amytal in surgical cases reduces preoperative apprehension. The patient is protected against undesirable psychic effects. Less anesthetic is needed. Nausea and other troublesome postoperative effects are diminished or overcome.

*May we send you
a booklet?*

Each Pulvule contains three grains
sodium iso-amyl ethyl barbiturate.

Eli Lilly and Company
Indianapolis U.S.A.

following the use of uroselectan; however, about the time we were having these reactions a product came out known as skiodan which is a mono-iodomethane sulphonate of sodium, an organic compound containing about 52 per cent of iodine so firmly combined that it does not react, even with nitric acid, sulphuric acid or silver nitrate. Skiodan in our hands has proved to be a safer substance for intravenous injections. Following its intravenous use we have had no reactions whatever, not even a pain at the site of injection, and our pictures have been fair.

Intravenous urography is not as accurate as instrumental urography, and it is not possible in the majority of the cases to get the minute detail that we know we can get by instrumental urography.

I feel that skiodan is definitely a safer drug to use inasmuch as it is more stable and the reactions following its use are fewer.

I wish to report the following three cases who had severe reactions following the intravenous administration of uroselectan.

CASE 1.—A 9-years-old girl who had been suffering with a urinary tract infection for six years and upon whom it was impossible to do a cystoscopic examination because of an extremely small bladder capacity and a severe cystitis. We decided to give her the usual dose of uroselectan for a nine-years-old child, which would be a minimum of 60 c.c. The solution was carefully prepared, warmed to body temperature and was injected slowly (10 to 15 minutes). When we had given only a very few c.c. the child complained of a feeling of warmth and was apparently in distress. The injection was continued until she had received 30 c.c. of the substance intravenously. At this stage she complained of a shortness of breath, a feeling of warmth, swelling of the lips and eyes and an urticarial rash covered the entire body. The administration of the drug was promptly stopped. The pulse was rapid and a little irregular and respiration was by no means normal. She was given adrenaline and atropine sulphate hypodermically, and within a few minutes the urticaria and labored respiration disappeared. The edema of face and eyelids persisted for two hours longer while the restlessness and rapid pulse persisted for 24 hours.

CASE 2.—A 32-years-old woman with a congenital anomaly of the right kidney. The usual dose of uroselectan for an adult was given intravenously and the patient complained of pain up her arm as far as her shoulder, a feeling of thirst and warmth. She gradually lost consciousness, and regained it only after five minutes. After a period of 48 hours she had recovered entirely from the intravenous injection of uroselectan.

CASE 3.—A stalwart woman who weighed 170 pounds was given the usual dose of uroselectan and immediately complained of such severe pain up her arm as far as her shoulder that it was necessary to give her a hypodermic injection of morphine sulphate. She was not the neurasthenic type of patient.

In all three instances we got beautiful skio-grams, but quite sick patients.

We are citing these three cases in order to place urologists and roentgenologists more on the alert as to the reactions that do sometimes occur following the most careful administration of this drug.

We believe that intravenous urography is of value in those cases where anatomical, pathological or technical circumstances prevent cystoscopic examination.

We believe it is contraindicated in cases of renal insufficiency from any cause, in impaired liver function and in any heart condition which would forbid intravenous injection of 100 c.c. of a foreign solution.

MOVIE OF A BRITON'S WILL

(*New York State Journal of Medicine*, February 1st, 1931)

The reading of the will of an elderly retired Birmingham manufacturer will be a novel and probably embarrassing experience for the beneficiaries and others whom he invited to attend it.

"The testator," according to the *Daily Express*, "has had a talking motion picture made of himself reading the document. The order of the seats before the screen has been arranged so he can address each one individually.

Not all the invited guests are beneficiaries. In an address from the screen he points out the faults and virtues of each. These criticisms will be delivered and the movie shown immediately after his cremation."

SALICYLIC ACID FRUIT IN THE PREVENTION AND TREATMENT OF RHEUMATISM IN CHILDREN

(*Epstein, J., in Archives of Pediatrics*, February 1931)

Rheumatism, like scurvy and rickets, has its start in early life. The prevention of rheumatism means the prevention of heart disease. The treatment of rheumatism is essentially prophylactic. Beginning with the second year of life, salicylated fruit juices should be added to the diet to prevent rheumatism. As there are a number of these fruits or fruit juices available, a fair selection can be made to suit the age and taste of every child, in and out of season. Strawberries, huckleberries, raspberries, plums, cherries, lemons, grape fruits or melons may be used. They all contain one or more of the antirheumatic drugs in an active state and can be given over a long period of time.

The drought and pellagra

If history repeats itself, poverty and privation, due to the drought, will leave pellagra in their wake this spring—as after the Mississippi flood. Authorities agree that a preparation of yeast rich in vitamine-G (B_2) serves as the best preventive of, and treatment for pellagra. To relieve pellagra during the flood of 1927, Dr. Joseph Goldberger, the U. S. Public Health Service and the American Red Cross employed large quantities of Brewers' Yeast-Harris and Yeast Vitamine-Harris in the Southern States.

Their favorable reports thoroughly justified the use of these products. Brewers' Yeast-Harris and Yeast Vitamine-Harris differ from other preparations of yeast in that biological assay of the output proves them to be uniformly very rich in the pellagra-preventive principle, vitamine-G (B_2), and also in vitamine- B_1 .

As a dietary adjunct, Yeast Bouillon Cubes Harris also furnish a dependable source of vitamine-B complex, containing both factors F and G in the form of a delicious broth.

To treat pellagra, prescribe 2 level teaspoonfuls of Brewers' Yeast-Harris two to six times daily.

YEAST VITAMINE-HARRIS

A Concentrate of
BREWERS' YEAST-HARRIS

Samples on request

THE HARRIS LABORATORIES



TUCKAHOE, NEW YORK

Clinical Comment

A Column Conducted By
L. G. GAGE, M.D., Charlotte, N. C.

VARIABILITY IN THE SYMPTOMS AND SIGNS OF CORONARY OCCLUSION

The pain from coronary occlusion is usually located under the sternum radiating into the left arm. I have observed the following variations from this location: In the back between the shoulder blades, in the neck and lower jaw, in one or both arms only, in the left axilla, in the epigastrium, and in the left upper lumbar region. The onset is usually more gradual than would be expected from the type of lesion that causes it. It is usually progressive in character, getting worse and worse. It is frequently preceded by premonitory pains for several days. The pain is ordinarily not relieved by nitrites. I have recently seen a patient who ran a typical occlusion course and showed characteristic electrocardiographic changes, but was immediately relieved after the attack had lasted about one hour by nitroglycerin. Ordinarily the pain can be felt for 12 to 24 hours in spite of morphine. There is always a persistent soreness after the active pain subsides. A recurrence of pain probably means an extension of the thrombosis.

Changes in the pulse are very variable. There may be no apparent changes in the pulse during the attack of pain or there may be any degree of collapse or any form of irregularity, from premature contractions to an absolute irregularity in time and force. Sooner or later even in the mildest cases a certain degree of tachycardia develops. The persistence of this tachycardia is a fair index to the continuation of rest and to prognosis.

Another very variable sign is the pericardial rub. It is most frequently never heard and when it is it usually appears on the second day and may last for a very short time. It is probably then obscured by the collection of fluid.

The fall in blood pressure which takes place is also very variable as to time and extent. In the more severe cases the change is present when the patient is first seen. In the milder cases it may not occur for 24 to 48 hours.

A rise of temperature usually occurs at the

end of 24 hours. This is sometimes delayed for 48 to 72 hours. A sign that can be almost always noticed and which can frequently be found before the temperature rises is the feverish fetid odor of the breath which I have noticed in several cases a day or so before any fever had developed. These patients may be extremely toxic with a great deal of backache, headache and other signs of acute toxemia.

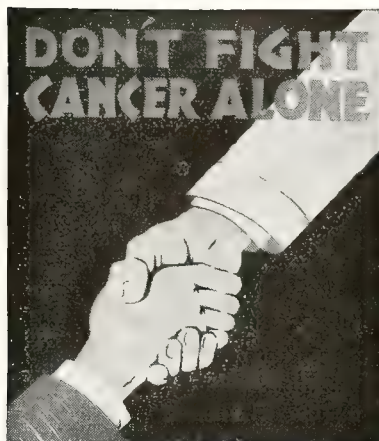
MOTHER CAN'T "MARK" HER BABY
(Children's Bureau Pub. No. 4, U. S. Gov. Printing
Office, Washington)

By a "maternal impression" it means an injury to the child through the influence of some harmful state of mind in the mother. There is a widespread feeling that if a mother is injured or sees some one injured or sees something especially repulsive to her, her baby will be "Marked." But there is no connection between the nervous system of the mother and that of the unborn baby, and such "maternal impression" are absolutely impossible.

A mother may harm the baby, however, by failing to plan her own life, physical and mental in the way that will result in the highest degree of health and happiness for herself and, therefore, for the child. Nervousness and fears may affect her ability to nurse her baby. Steady nerves and mental poise and the earnest desire to give her baby this advantage will help her to do so. It can not be too much emphasized that pregnancy is not a disease but is frequently a pathway to better health.

THE PHYSICIANS' COOPERATION IN PUBLIC HEALTH
ADMINISTRATION
(Harrington, F. E., in *Minnesota Medicine*, February
1931)

It has been the policy of the Minneapolis Department of Health to limit its activities as much as possible to the things that could not be done by the individual physician. In the administration of the public as well as the school health every possible means has been taken to place in the hands of the physician those duties and functions which are properly his. The Health Department does not stand forth with a big stick but conducts its activities as a cooperative measure doing for the public what the public laws demand, the things that the private practitioner can not perform. The school health activities are discovery and not corrective, because of the opportunity presented at a time when children are by law congregated and under discipline, existing defects are looked for and reported only in group. All of these activities result in sending to the physician those patients for the correction of conditions retarding or militating against the growth of the child.



*A grave responsibility rests upon
the family physician*

IT IS HIS DUTY:

To keep abreast of progress in cancer research and clinical experience.

To warn his patients of the early symptoms of cancer.

To insist upon periodic health examinations which will lead to the correction of precancerous conditions and the detection of early cancers.

"Cancer is today the outstanding problem in medicine and public health; it threatens the ascendancy of all other causes of death... education both of the medical profession and of the public is the most essential part of the present active campaign for the prevention and cure of cancer."

(William H. Welch, M. D., in Cancer: International Contributions to the Study of Cancer in honor of James Ewing, Philadelphia, 1931.)

The New York City Cancer Committee

34 East 75th Street • RHineland 4-0435

If not a resident of New York City—write to the

American Society for the Control of Cancer

New York, N. Y.

In greater New York we will gladly furnish qualified speakers to groups of thirty or more. Do your share in helping to arrange for a talk.

Pamphlets will be furnished for free distribution on request.

SURGERY

GEO. H. BUNCH, M.D., *Editor*,

SURGERY IN DIABETICS

We are called upon to operate upon more diabetic patients every year. Because of increased sugar consumption from national prohibition, because of increased longevity from improvement in preventive and therapeutic practice in this generation; but more particularly because of the discovery of insulin and the keeping alive of diabetic patients who otherwise would have died, there is undoubtedly a relative increase of diabetes.

The diabetic patient is as susceptible to most surgical conditions as is the average individual and in addition to this is peculiarly liable to skin infections, notably carbuncle and vascular changes that may cause gangrene of the extremities. Diabetes is a disease of the pancreas and although occurring in the young is essentially a condition of middle and of advanced life. In adults it is apt to be complicated by chronic cholecystitis and gallstones.

No matter what the surgical condition, when a history of glycosuria is obtained or sugar is found in the urine a competent internist should advise the surgeon as to the safety of operation and should assume responsibility for the medical care of the case. By the use of insulin and glucose diabetic coma can be avoided usually and an otherwise poor risk made safely operable. By insulin we are able to give a high carbohydrate and a low fat diet to a patient who otherwise would have been given a low carbohydrate and a high fat diet. In the presence of infection insulin is not as effective and should be given in increased dosage. The medical care of the surgical diabetic patient was discussed by Dr. Madden in an editorial in this journal last month.

Carbuncle, most often on the back of the neck, is the most common complication of diabetes for which surgery is indicated. Before the use of insulin it had a high mortality out of all proportion to the severity of the local lesion. Our practice is excision under nitrous oxide. This removes the diseased tissue and stops absorption. The temperature becomes normal in a few hours and convalescence begins. Local anesthesia should not be used because it is not effective

in inflammatory tissue and because it tends to spread infection.

It must not be forgotten that the failure of the pancreas to properly handle carbohydrate metabolism results in systemic change and pathology. It causes chronic nephritis with albumin and casts in the urine so that when a patient with diabetes of long standing becomes comatose it may be from uremia and not respond to diabetic treatment. In old people much of the postoperative mortality in diabetics is from uremia. X-ray study of the legs of diabetic patients show 63 per cent with evidence of arterial calcification as compared to 36 per cent in non-diabetic patients of the same age. The heart may be crippled by coronary artery disease. Generalized arteriosclerosis is caused by diabetes and is prone to manifest itself by vascular changes in the foot—pain, discoloration and gangrene. The pathology is primarily that of senile gangrene with the added danger of infection to which every diabetic is predisposed.

The prevention of gangrene should be considered in cases where there is vascular degeneration. Ingrowing toe nails should be cut with extreme care. Corns should not be trimmed. Care should be taken in preventing bruises and abrasions about the foot. Shoes should not be tight. Elastic garters should not worn. The feet should be kept warm.

If the gangrene is dry amputation should be delayed until demarkation is complete. There is neither fever nor absorption. The process is self-limited and in time the affected tissues sloughs and the raw surface heals satisfactorily if left alone. Infection is apt to come however making it wise to amputate when the line of demarkation has formed. If the gangrene is moist amputation should be done early to prevent infection. It should be done at the point of election, at the junction of the upper and middle thirds of the leg with a flap of ample length to prevent tension and sloughing. Although the blood supply is better above the knee amputation of the thigh is a major operation with high mortality in elderly patients. An artificial leg is much more satisfactorily used below the knee. The wound should be loosely closed with interrupted silkworm-gut sutures. Urban Maes advises closure without drainage. We have been afraid to do this. We get satisfactory healing with prevention of infection by the use of Dakin solution and believe it safer. In

While Attending the Meeting of the
Medical Society of the State of North
Carolina

April 20, 21 & 22 at Durham

You Are Cordially Invited to Visit the
Booth of the
Winchester Surgical Supply Company
&
Winchester-Ritch Surgical Company

At the Washington Duke Hotel

our experience spinal anesthesia is the one of choice.

It is surprising what a small blood supply is sufficient to maintain life in these tissues. On amputation there may be but a trickle of blood seen. Periarterial sympathectomy—the stripping of the outer coat of the femoral artery by cutting the sympathetic nerve supply to the extremity—allows it to dilate and give an increased blood supply to the extremity. La Riche advises it for spasmodic conditions of the artery but unfortunately it has not been found of benefit in restoring the circulation in diabetes.

GYNECOLOGY

CHARLES R. ROBINS, M.D., *Editor*

CARCINOMA OF THE CERVIX

There are a wealth of papers coming out at the present time on the treatment of Cancer of the Cervix. Most of these take sides either for or against radium. Bartlett and Smith reporting from the Free Hospital for Women in Boston analyze 673 cases occurring between 1875 and 1929 (S.G.&O. 1-11-

249). The treatment was by various methods including radium alone, complete hysterectomy, complete hysterectomy followed by radium, and by various other combinations of methods. The report is a most illuminating one, particularly as it is not biased in the opinions expressed.

A few of the interesting points brought out are as follows:

As to the incidence of pregnancy, 47 married and 25 single patients gave no history of pregnancy. An additional 33 gave histories of abortion or miscarriages. Previous supravaginal hysterectomy had been performed on 27 patients. 11 had been operated on in that hospital, and of these one probably had the carcinoma at the time of the operation.

Biopsy is routine for all cases of curettage and trachelorrhaphy. In this way 16 cases of early unsuspected cervical cancer have been detected.

Cauterization of cervix, as practiced by them, seems to be a fairly sure prophylaxis against later carcinoma. Of 1700 cases cauterized from 1914 to 1928 inclusive, none

has later developed carcinoma. Of the 673 cases of cancer reported, only one had previously been cauterized, and this probably had cancer at the time.

The operative mortality for complete hysterectomy from 1902-1928 inclusive was 6.5 per cent. In comparing the results from radium and complete hysterectomy, the operative deaths are included in the statistics of the operation.

As to the results secured, the following is the comparative table:

	<i>Radium</i>	<i>Complete hysterectomy</i>
Traceable 7 years, no.....	91	80
Survival, per cent.....	4.4	22.5
Traceable, 5 years, no.....	143	89
Survival, per cent.....	11.9	32.6
Traceable, 3 years, no.....	215	103
Survival, per cent.....	25.1	45.6

Your editor notes from time to time articles advocating operation for carcinoma of the cervix when cases were favorable and has practiced the combination of radiation and operation with most excellent results. However, his cases have been too few to formulate a rule. The number of cases that are in the operable class has always been small. However, with the amount of cancer propaganda that has been circulated, it is reasonable that more of the early cases will apply for treatment. In such cases we have to consider well if operation plus radiation may not give better results than radium alone.

BOOK REVIEWS

THE LETTERS OF DR. BETTERMAN, by CHARLES ELTON BLANCHARD, M.D., Author Betterman II on the Business of Betterman, Our Altruistic Individualism, etc. *Medical Success Press*, 36 N. Phelps St., Youngstown, Ohio. \$1.00.

A booklet written in the form of a series of letters written by a doctor to his doctor son, which contain much of value to doctors just starting out and with little knowledge of business affairs, or to older ones who are being hard put to make a living.

THE NEW EVOLUTION; ZOOGENESIS, by AUSTIN H. CLARK, U. S. National Museum, author of *Animals of Land and Sea*, *Birds of the Southern Lesser Antilles*, *The Crinoids of the Indian Ocean*, etc. Baltimore, *The Williams and Wilkins Co.*, 1930. \$3.00.

The relationship of man to the other animals greatly interests all but the dullest and the most fanatical. The vast majority of those whose studies have been largely in science have accepted as true the doctrine of organic evolution with man as the resultant of a long and stately series of selections and adaptations.

The author agrees with the fundamental idea of evolution, that all types of animal life must be explained in terms of a primitive, single cell, and that all the more complicated forms are derived from some such remote ancestor. He does not believe, though, that any ape or monkey was a link in the evolution of man.

The author names stupidity and ferocity as the characteristics of bull-dogs. This does not at all agree with the reviewer's experience or reading.

QUANTITATIVE CLINICAL CHEMISTRY: Vol. 1, Interpretations, by JOHN P. PETERS, M.D., M.A., Professor of Internal Medicine, Yale University School of Medicine, and DONALD D. VAN SLYKE, Ph.D., Sc.D., Member of The Rockefeller Institute for Medical Research. *Williams and Wilkins Co.*, Baltimore, 1931. \$12.00.

This is a work after a plan of unusual comprehensiveness. Physiologic conditions are described, then disease effects contrasted. This aim is the better realized by collaboration of chemist and clinician. The first chapter is an total metabolism, aimed to lay the groundwork and make clear the subsequent chapters.

Study of the book will vastly improve our conceptions of such fundamental practical clinical subjects as malnutrition, starvation, ketosis, obesity and thinness, fever, infections, the effects of exercise, endocrine disorders and basal metabolism.

The important body components and waste products are dealt with in an illuminating manner. The full chapters on bases, calcium, magnesium, chlorides, phosphorus and sulphur supply information of absorbing interest on subjects which are demanding more and more attention at the bedside. Calcium absorption and its relation to rickets, arteriosclerosis and nephritis, magnesium anesthesia, chlorides in organic form, phosphorus as an essential for blood coagulation, insulin as an unstable sulphur compound and diminished

excretion of sulphur by patients in the active stage of pellagra are but a few samples to indicate the book's features of special or newer interest.

SYMPTOMS AND DISEASES APPLIED: Questionnaires, Differential Diagnosis, Mathematical Diagnosis, by W. L. KITCHENS, M.D., Texarkana, U. S. A. \$12.00.

Most of us have many times wished for a book of this sort, when the symptoms most complained of and the signs elicited did not fit readily into any diagnosis which came into mind. Most gross errors in diagnosis are due to failure to make careful examinations. Next after this as a source of error is that no thought of the existing condition comes into the mind of the examiner.

Here is a book written to meet this latter need. Part I contains a subjective symptom index, an objective symptom index, and a laboratory test index; Part II, examples of diagnosis, and symptoms of diseases applied; Part III a disease index; Part IV diseases with symptoms applied; and Part V, questionnaires.

By the use of the tables, applied according to rules of mathematics, one may be led to the making of positive, probable or possible diagnoses in the first instance; and then further, by following the paths thus opened up, to converting probable or possible diagnoses into plain solutions of many of our difficult problems in diagnosis. The numerous typographical and other flaws of minor consequence may well be overlooked in view of the real helpfulness of the book, particularly since the author puts out his book in all modesty and asks all his readers to point out errors and offer additions from their experiences for future editions.

THE SEXUAL QUESTION: A Scientific, Psychological, Hygienic and Sociological Study, by AUGUST FOREL, M.D., Ph.D., LL.D., Formerly Professor of Psychiatry at and Director of the Insane Asylum in Zurich (Switzerland). English adaptation from the second German edition, revised and enlarged by C. F. MARSHALL, M.D., F.R.C.S., Late Assistant Surgeon to the Hospital for Diseases of the Skin, London. Illustrated, revised edition. *Physicians and Surgeons Book Co.*, Brooklyn, N. Y. 1931.

This is not, as are so many writings on this

subject, a pandering to the tastes of the licentious, but a setting forth of the vast store of knowledge of a subject of the greatest concern to humankind. Some of the subjects are: reproduction, evolution, natural conditions of coitus, sexual appetite in man and woman, love, love and religion, origin of marriage, sexual selection, medicine and sexual life, sexual morality, the sexual question in political economy, in pedagogy and in art.

This book is admirably adopted as a text for students—medical, college or even high-school. It is filled with reliable information of the greatest usefulness to the race, and its literary style is of the kind which pleases the tastes of the intelligent reader, without being burdened with unusual technical terms.

IT COSTS LESS TO TRAVEL BY TRAIN

The Safest, Most Economical, Most Reliable Way
TWO-DAY LIMIT round trip tickets on sale daily at **ONE and ONE-THIRD (1 1/3) FARES** for the round trip between all points within a radius of 150 miles.

SIX-DAY LIMIT round trip tickets on sale daily at **ONE and ONE-HALF (1 1/2) FARES** for the round trip between all points within a radius of 150 miles.

FARES FROM CHARLOTTE NORTH CAROLINA

To	One Way Fare	Round Trip "Two-Day Limit"	Round Trip "Six-Day Limit"
ASHEVILLE, N. C.	\$5.21	\$6.95	\$7.85
BARBER, N. C.	1.66	2.10	2.35
BLACKSBURG, S. C.	1.67	2.25	2.55
CHESTER, S. C.	1.60	2.15	2.40
COLUMBIA, S. C.	3.90	5.20	5.85
CONCORD, N. C.	.77	1.05	1.20
DANVILLE, VA.	5.12	6.85	7.70
GASTONIA, N. C.	.78	1.05	1.20
GREENVILLE, S. C.	3.84	5.15	5.80
GREENSBORO, N. C.	3.38	4.55	5.10
HIGH POINT, N. C.	2.84	3.80	4.30
HICKORY, N. C.	2.74	3.70	4.15
MOORESVILLE, N. C.	1.02	1.40	1.55
RALEIGH, N. C.	6.26	8.00	9.00
ROCK HILL, S. C.	.90	1.20	1.35
SALISBURY, N. C.	1.59	2.15	2.40
SENECA, S. C.	5.22	7.00	7.85
SHELBY, N. C.	1.91	2.55	2.90
SPARTANBURG, S. C.	2.70	3.60	4.05
STATESVILLE, N. C.	1.59	2.15	2.40
WINSTON-S'LEM, N. C.	3.00	4.00	4.50

To all other stations within 150 miles from Charlotte, on the same basis.

Also 10-trip, 20-trip and 30-trip low fare tickets, between stations 200 miles apart, good 6 months.

ASK AGENTS FOR PARTICULARS
CITY TICKET OFFICE

308 West Trade St.

Phone Dial 2-3351

PSYCHOPATHIA SEXUALIS; With Especial Reference to the Antipathic Sexual Instinct: A Medico-Forensic Study, by DR. R. V. KRAFFT-EBING, O. O. Prof. für Psychiatrie und Nervenkrankheiten an der K. K. Universität Wien. Only authorized English adaptation of the twelfth German edition, by F. J. REEMAN. Revised edition. *Physicians and Surgeons Book Co.*, Brooklyn, N. Y. 1931.

As is indicated by the appearance of a 12th edition, Krafft-Ebing has been for a generation preeminent as a world authority on the influence exerted by sex on life, individual and social.

This work is introduced by a chapter on the psychology of sexual life; from this the author proceeds to a discussion of anatomical and physiological facts, general and special pathology, and pathological sexual life before the criminal forum.

A serious study by doctors of the physiology, psychology and pathology of sexuality would add tremendously to the usefulness, influence and prestige of the family doctor. The family doctor should replace the judge as the arbiter of cases of domestic discord. Indeed, proper application on the part of their doctor of the matters of which Krafft-Ebing writes with such understanding would rob the divorce courts of a good half of their grist and contribute enormously to human happiness.

CRIMINAL RESPONSIBILITY, by CHARLES MERCIER, M.B., F.R.C.P., F.R.C.S., Lecturer on Insanity at the Westminster Hospital Medical School and at the Medical School of the Royal Free Hospital; Author of "The Nervous System and the Mind"; "Sanity and Insanity"; "Lunatic Asylums—Their Construction and Management"; "Lunacy Law for Medical Men"; "Psychology, Normal and Morbid"; "A Textbook of Insanity"; etc. *Physicians and Surgeons Book Co.*, Brooklyn, N. Y. 1929.

Responsibility is the concern of the doctor, more than it is of the lawyer, more than it is of the jurist, even; for, while few get into the law courts, all of us have to come many times under the care of the doctor, and each time he must consider and weigh the degree of our responsibility.

Nothing could better serve to commend this book to the discriminating doctor than the statement in the preface that the subject has been treated exhaustively from the viewpoint of a lawyer, but, as this lawyer "was in

psychology an amateur," the treatment of a psychologist is needed.

Here is reasoning, with all the cogency of that of Saul of Tarsus, set down, line upon line, with all his elegance and precision—that rarest of combinations in writings.

Doctors go about the investigation of a problem entirely differently from the methods of lawyers. Hear this man of medicine protesting a habit of judges: "The usual course is for the judge to adhere strictly to the terms of the answers, and then to stretch the plain meaning of the language of those answers until the ordinary non-legal user of the English language is aghast at the distortions and deformations and tortures to which the unfortunate words are subjected, and wonders whether it is worth while to have a language which can apparently be taken to mean anything the user pleases."

NEWS ITEMS

(Dr. Jas. K. Hall, Richmond and Dr. L. B. McBrayer, Southern Pines contribute regularly)

The GUILFORD COUNTY MEDICAL SOCIETY had a large and enthusiastic meeting April 2nd, the guest-speaker being Dr. Robert Bay of Baltimore.

At the meeting of the MECKLENBURG COUNTY MEDICAL SOCIETY March 3rd, Dr. Charles S. Mangum of the University spoke on brain function, demonstrated and suspected. Dr. Mangum delighted his hearers with his accounts of established scientific facts and his excursions into speculative philosophy.

The HOKE COUNTY MEDICAL SOCIETY'S regular meeting on March 3rd, held at Sanatorium was featured by an address by Dr. A. C. Bethune of Raeford, his subject being "Elephantiasis".

BUNCOMBE COUNTY MEDICAL SOCIETY'S delegates to 1931 Session State Medical Society are: Dr. J. B. Greene, alternate Dr. W. P. Herbert; Dr. C. V. Reynolds, alternate Dr. P. H. Ringer; Dr. F. W. Griffith, alternate Dr. C. H. Cocke; Dr. W. L. Grantham, alternate Dr. R. A. White; and Dr. J. W. Huston, alternate Dr. A. C. McCall.

Wake's: Drs. R. P. Noble, Raleigh, C. P. Eldridge, Raleigh, C. E. Cheek, Fuguay

Springs, and C. C. Carpenter, Wake Forest. Alternates: Drs. R. B. Wilkins, V. S. Cavers, A. S. Oliver, all of Raleigh.

Nine North Carolinian doctors were made fellows of the American College of Physicians at the recent meeting at Baltimore.

They were Drs. Harold Lindsay Amoss, Durham; Samuel Moffett Bittinger, Sanatorium; Alva Brown Craddock, Asheville; William Banks Dewar, Raleigh; Robert Lee Felts, Durham; Isaac Hall Manning, Chapel Hill; Karl Schaffle, Asheville, and William Hopton Smith, Goldsboro.

DRS. H. H. OGBURN and R. N. HARDEN announce to the profession the formation of a partnership for the practice of General Surgery, Greensboro, N. C.

DR. JOHN R. IRWIN announces the removal of his office from the Professional Building to his residence, 310 Queens Road, Charlotte, N. C.

DRS. HAMILTON W. MCKAY and ROBERT W. MCKAY have removed their offices from the Professional Building to the new Medical Arts Building, 121 West Seventh Street, Charlotte, N. C.

DR. WILLIAM ANDERSON, 85, Med. Col. State of S. C., '80, died at the home of his son, William Anderson, Jr., in Gastonia, N. C. Dr. Anderson's home was at Blacksburg, S. C. He had been retired from practice a number of years. His only daughter is the wife of Dr. Floyd Rogers of Columbia.

Our Medical Schools

UNIVERSITY OF VIRGINIA

Dr. D. Lesesne Smith, pediatrician of Spartanburg, S. C., and Director of the Southern Pediatric Seminar at Saluda, N. C., visited our Medical School on February 15th.

On February 17th Dr. Edwin P. Lehman, Professor of Surgery and Gynecology, spoke before the Tri-State Medical Society, meeting in Richmond. The subject of his address was Some Factors in the Pathological Physiology of Burns.

On February 24th Dr. James Edwin Wood, Associate Professor of Internal Medicine,

addressed the Richmond Academy of Medicine on the Treatment of Adams-Stokes Syndrome with Ephedrine. On March 2nd he addressed the medical meeting at the Southside Community Hospital in Farmville on Cardiac Arrhythmias. On March 16th he spoke before the Roanoke Academy of Medicine and on March 18th before the Southwestern Virginia Medical Society, meeting in Wytheville.

On March 18th Dr. Lawrence T. Royster, Professor of Pediatrics, spoke before the Southern Virginia Medical Society at Wytheville on the subject of Anhydremia.

At the meeting of the University of Virginia Medical Society on March 2nd, Dr. H. E. Jordan presented a paper on The Blood and Blood Forming Tissues of Lower Vertebrates, and Doctors Archer and Barker discussed Non-ulcerative Diseases of the Pylorus and Duodenum.

At the meeting on March 16th the following program was presented: Some Observations on Spontaneous Subarachnoid Hemorrhage

ELECTRICAL HEALTH HELPS

The attention of physicians and patients alike is invited to those electrical appliances which can be used to such splendid advantage for the comfort and health of persons who are not enjoying perfect health.

The electric heating pad, for instance, constant at any desired temperature, is a God-send to thousands who need applications of heat for the relief of pain. Small water heaters and other small appliances are found to be of great convenience and value in sick rooms.

The G. E. Sun Lamp, the Master Healthizer or the Graybar Stimulator, and other appliances may be used in many cases with much benefit.

You are invited to inspect these and other appliances at any of our stores.

**SOUTHERN PUBLIC UTILITIES
COMPANY**

**NORTH CAROLINA PUBLIC
SERVICE COMPANY
Charlotte, N. C.**

by Dr. Staige Davis Blackford, Gastric Analysis in Pellagra by Doctors Mulholland and King and the Glial Structure of a Few Brain Tumors by Dr. David C. Wilson.

DUKE

Dr. Lewellys F. Baker visited the Hospital on March 21st and conducted the Teaching Clinic.

Dr. Harold L. Amoss was recently elected to Fellowship in the American College of Physicians. After attending the meeting in Baltimore, at which he presented a paper entitled "Recurrent Erysipelas", Dr. Amoss spent a few days in New York, where he visited The Rockefeller Institute, before returning.

Dr. Julian M. Ruffin is on leave of absence for a month to make a study of out patient clinics in various hospitals.

THE MESSAGE OF THE PRESIDENT OF THE WOMAN'S AUXILIARY OF THE MEDICAL SOCIETY OF THE STATE OF NORTH CAROLINA.

As President of the Woman's Auxiliary to the State Medical Society of North Carolina, I am happy to have this opportunity of presenting the work of the Auxiliary.

The object of the Auxiliary organized in North Carolina eight years ago and the Auxiliary to The American Medical Association organized the year before, as expressed in the Constitution, is to promote unity, harmony and concord between the members of the medical profession and between families of such members; to assist in the social activities at State, district and county society meetings; to interpret to the public the traditions, aims and objects of the medical profession; to fraternize with women's organizations of whatever kind and to promote in every possible way the interest in general of the medical profession locally and in the State and Nation.

The membership is composed of doctors' wives who pay \$1.00 a year membership dues. I am making this direct appeal to every doctor's wife where there is no county organization that she will call together the doctors' wives in her community and immediately effect an organization. The nine councillors will be glad to assist and give literature to any County Auxiliary in their respective districts. These are:

2nd District: Mrs. M. A. McCuiston, Kinston

3rd District: Mrs. G. C. Beard, Atkinson

4th District: Mrs. Malcolm Bizzell, Goldsboro

5th District: Mrs. Roscoe McMillan, Red Springs

6th District: Mrs. Russell Perry, Durham

7th District: Mrs. I. W. Faison, Charlotte

8th District: Mrs. A. D. Ownbey, Greensboro

9th District: Mrs. J. L. Sowers, Lexington

10th District: Mrs. Allen T. Hipps, Asheville.

We have a large number of County Auxiliaries, most of which are doing wonderful work. It is our ambition to have an Auxiliary in every county in North Carolina. In one year's time New Jersey attained 100 per cent in organization. Each county medical society in the State sponsored an Auxiliary. This could not have been accomplished without the active coöperation of the physicians, themselves, who had faith in the purposes and efficiency of their wives.

The State Auxiliary for the past three years has supported a bed at Sanatorium but this year, feeling that the times demand broader vision, greater incentive and keener endeavor, the Auxiliary has added to the support of the bed a constructive health program in the schools of the State and the raising of a Loan Fund for the use of children of North Carolina physicians.

A great Frenchman once said "The future belongs to those who shall have done most for suffering humanity." As the President of the State Medical Society of last year said at the Pinehurst meeting, "We can never build up in North Carolina a great medical profession by the acquisition of scientific knowledge important as that may be. We can never raise our profession to the sublime heights it should attain merely by the expansion of intellectual training, necessary as it is. The medical profession, if it is to preserve its sacred traditions and maintain its lofty ideals, must keep alive and aloft the ideal of service which has inspired it in the past and must sustain it in the future."

I hold that no organization can today render a more worthy service than by promoting the cause of education. The Woman's Auxiliary to the North Carolina Medical Society has set as its contribution to the educational work of our great State the raising of a \$10,000 Loan Fund. Other State Auxil-

iaries have raised large sums and I believe the North Carolina Woman's Auxiliary with the help of the medical profession in North Carolina can keep pace. It is my ambition to have every one of the twenty-three hundred doctors and their wives in North Carolina to contribute one dollar to this Loan Fund. If there is no Auxiliary organization in your town or county, will you not send a check directly to our State Treasurer, Mrs. A. B. Holmes at Fairmont? Surely except in very rare cases there is no doctor's family in North Carolina that cannot afford a two-dollar investment for the boys and girls of our glorious profession who need help in obtaining an education.

The details for handling this Loan Fund will be worked out by a Committee from the State Medical Society and the Woman's Auxiliary and will be announced at the State meeting in Durham, April 21st. The thing we want to do now is to raise the money. The Durham County Auxiliary of which Mrs. Foy Robeson is President has planned most delightfully for the entertainment of those who attend the Woman's Auxiliary which meets at the same time as the State Medical Society. An inspiring program is being arranged and the doctors' wives of North Carolina are given a cordial invitation to go to Durham with their husbands April 21st and are guaranteed two days of rare pleasure and profit.

There's a crisis in North Carolina today, not only because there's less money than usual and because there is an outrageous inequality of tax burden borne by the landowner, but also because we are in danger of losing grip and being content with lesser things. If we fail the children of this generation because we don't have the courage and faith and determination to provide, at whatever cost, the best possible educational advantages for them we shall forever brand ourselves men and women unworthy the traditions of a great State.

I know the name of every doctor in North Carolina and I'm depending on you to help the Woman's Auxiliary raise this \$10,000 Loan Fund.

I've known doctors all the way from Snow Hill, North Carolina, to Florence, Italy, and I've yet to meet a sorry one. I've bragged on doctors all my life, in fact I'm the only woman I know who deliberately planned to

marry one, and I do hope I won't live to take back anything I've said.

"The glory of life is
To love not to be loved
To give not to get
To serve not to be served."

Hopefully and prayerfully,
Mary Colvin (Mrs. W. B.) Murphy.

Snow Hill, N. C.,

March 24, 1931.

Tri-State Medical Association BUSINESS SESSION

The report of the Council was read by DR. DEWITT KLUTTZ, Chairman:

The report of the secretary-treasurer is approved and that officer commended for the zealous and efficient manner in which the affairs of the association have been conducted.

The accounts of the secretary-treasurer have been audited and found correct.

Although a gratifying number of applications—more than 40—are presented, we agree with the secretary-treasurer that he should be given more aid by the membership as a whole. The work of recruiting our ranks, as well as almost all of the other work of the association has been done by the secretary-treasurer. The Tri-State is not an association which recruits itself, as do the county and State societies. The times being as they are many resignations may be counted on and many will become delinquent.

The recommendation of the secretary-treasurer that a large committee on membership be appointed is endorsed.

ELECTION OF OFFICERS

PRESIDENT

PRESIDENT LYLES:

Nominations for president are now in order. As you know, the president this year is to come from Virginia.

DR. W. F. DREWRY, Richmond:

It is very seldom I have spoken on the floor of this association; I have been a very modest, retiring member. Nevertheless, I have been impressed with the quality of its papers and the quality of its members. I like the way you close this meeting, with a bang, as it were. I think it is a very important thing to end it with just as much enthusiasm as you begin it. I have observed this; the personnel

of your presidents has been of the highest sort; they have been medical men who rank high in the profession in the Carolinas and Virginia. I have noticed, also, that the quality of your papers has been of the highest order.

I believe it is in order that the president shall come from Virginia. I believe that I reflect the sentiments of the profession in Virginia, as represented in the Tri-State, when I name or suggest a man who is known not only throughout Virginia and throughout the Carolinas but throughout the country as a specialist of the highest order and who is known not only as a physician and a specialist in his line but as a literary man. He is a literary man, a cultured man. You have, then, all the qualities of a fine physician, a fine executive, and a literary character in Dr. Beverley R. Tucker; and I take pleasure in nominating Dr. Tucker for president of this organization for the coming year.

DR. W. L. PEPLE, Richmond:

I second that nomination with a great deal of pleasure. I think in putting its destinies in the hands of Dr. Tucker the future of the Tri-State Medical Association is entirely safe. I therefore second the nomination of Dr. Tucker.

Motion that the nominations be closed and that the secretary cast the unanimous ballot of the association for Dr. Tucker as president. Motion seconded and carried, and Dr. Northington cast the ballot.

The President appointed Dr. Davis Furman and Dr. W. L. Peple to escort Dr. Tucker to the Chair.

DR. BEVERLEY R. TUCKER:

Gentlemen, I shall not make any speech, except to thank you very much and to tell you I am an amateur, having never been president of a medical organization before. I will try to learn during the next year how to conduct the meeting, but you will have to excuse me now any mistakes I may make.

Nominations for the office of vice-president are in order.

VICE-PRESIDENT

Dr. Northington nominated Dr. Douglas Jennings, of Bennettsville, as vice-president from South Carolina, and the nomination was seconded. Motion that the nominations be closed and the secretary cast the unanimous ballot of the Association for Dr. Jennings.

Motion seconded and carried, and Dr. Northington cast the ballot.

DR. R. B. DAVIS, Greensboro:

I should like to place in nomination a man who has never been weighed in the balance and found wanting in the Tri-State Association, a man who is always here, and a man who can always be counted on from year to year to support the medical profession—Dr. W. C. Ashworth, of Greensboro.

This nomination was seconded. A motion was offered that the nominations be closed and that the secretary cast the unanimous ballot of the Association for Dr. Ashworth, which motion was seconded and carried.

Dr. W. L. Peple nominated Dr. Joseph Geisinger, of Richmond, as vice-president from Virginia, the nomination being seconded by Dr. A. L. Gray and Dr. Kinloch Nelson. Motion that the nominations be closed and that the secretary cast the unanimous ballot of the Association for Dr. Geisinger; motion seconded and carried, and Dr. Geisinger was elected.

SECRETARY-TREASURER

Dr. R. B. Davis nominated Dr. Northington for re-election to the office of Secretary-Treasurer, and this nomination was seconded. A motion was offered to close the nominations and that the President cast a unanimous ballot for Dr. Northington, which motion was seconded and adopted by a unanimous rising vote.

Newly elected as Councilors: Dr. D. B. Cobb, Goldsboro, N. C.; Dr. J. W. White, Greenville, S. C.; and Dr. E. P. Lehman, University, Va. These serve with Councilors: Dr. DeWitt Kluttz, Washington, N. C.; Dr. J. H. Cannon, Charleston, S. C.; Dr. H. J. Langston, Danville, Va.; Dr. R. E. Seibels, Columbia, S. C.; Dr. Dean B. Cole, Richmond, Va.; and Dr. C. C. Orr, Asheville, N. C.

RESOLUTION OF THANKS

Dr. James M. Northington offered a resolution of appreciation for the obligingness of the invited guests and of appreciation to the city of Richmond, the hotel management, the local profession, and the newspapers for the courtesies shown the association. The motion to adopt was seconded and carried.

The Tri-State Medical Association then adjourned *sine die*, at six p. m., Tuesday, February 17, 1931.

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., *Supt.*)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., *CHIEF*

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

*CHIEF of CLINIC, Emeritus**Obstetrics and Gynecology*

J. L. RANSON, M.D.

*Obstetrics and Gynecology and Anesthesia*MISS FANNIE AUSTIN, *Nurse*

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*CHARLES S. MOSS, M.D. *Surgeon*

O. J. MACLAUGHLIN, M.D.

*Ophthalmologist**Oto-Laryngologist*

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE

Pathologist

INTERNAL MEDICINE

JAMES M. NORTHINGTON, M.D.

Diagnosis and Treatment
in

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park Arkansas

JAMIE W. DICKIE, B.S., M.D.

INTERNAL MEDICINE
DISEASES OF THE CHEST

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

Practice Limited to
ORTHOPEDIC SURGERY and FRACTURES

Fifteen West Seventh Street
105 W. Franklin Ave.

Charlotte
Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761
Burlington North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J
3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT
Telephones—

Office—463
Hours—9 to 5 and by Appointment
219-23 Professional Bldg. Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.
Consultation 219 Professional Bldg.
Phone 4063

SURGICAL TECHNIQUE

THE MIAMI LABORATORY OF SURGICAL TECHNIQUE

Offers a Special Postgraduate Course
IN SURGICAL TECHNIQUE
AND OPERATIVE SURGERY
ON THE CADAVER AND ON LIVE DOGS
To Be Given During the Months of April and
May, 1931

For Full Particulars, Address:

MAURICE E. HECK, M.D., Director
601 Professional Building, Miami, Florida

POSITION WANTED: Well trained technician 21 years of age would like to have place in hospital or private laboratory. Can do general laboratory work including Wassermanns and tissues. Can also give Basal metabolism tests. What have you to offer? *References.* Address Miss C. L. S., care this journal.

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

*NERVOUS AND MENTAL DISEASE
ADDICTIONS*

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.

RAYMOND THOMPSON, M.D.

CLAUDE B. SQUIRES, M.D.

THEODORE M. DAVIS, M.D.

Prostatic Resection and Operative Cystoscopy:

THEODORE M. DAVIS, M.D.

CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology

ROBERT H. LAFFERTY, M.D.

CLYDE C. PHILLIPS, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKAY and McKay***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.

Charlotte

Residence Phone 1858

Office Phone 1857

221 East Main Street

DR. W. B. LYLES

Spartanburg, S. C.

Practice limited to

UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., Director***PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM*

Colonial Apartments

Greer, S. C.

L. D. McPHAIL, M.D.**WYETT F. SIMPSON, M.D.***RECTAL DISEASES**GENITO-URINARY DISEASES*

Phone 1234

405-408 Professional Bldg. Charlotte

Hot Springs National Park, Arkansas

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

R. B. McKNIGHT, M.D.*SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30-5

Professional Building

Charlotte

WM. MARVIN SCRUGGS, M.D., F.A.C.S.*SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

WILLIAM FRANCIS MARTIN, M.D.*GENERAL SURGERY**GYNECOLOGY*

Professional Building

Charlotte

HAROLD GLASCOCK, M.D.*GENERAL SURGERY AND
DIAGNOSIS*

Office At

Mary Elizabeth Hospital

Raleigh, N. C.

SOUTHERN MEDICINE and SURGERY

Vol. XCIII

Charlotte, N. C., May, 1931

No. 5

President's Address*

Medical Society of the State of North Carolina

By J. G. MURPHY, B.S., M.D., F.A.C.S., Wilmington

In loyalty to my best impulses I desire first of all to express to this organization my fervent gratitude for its generosity in selecting me to stand on the bridge and pilot the medical ship through the uncertain waters of the past year. We have had many squalls, some gales, some threatened storms, and withal, some smooth and easy sailing. Many have stood by, when the clouds were seen gathering in the distance. They counseled to sail straight ahead, that our ship had strength for storms. To those who have stood by and helped and encouraged, I wish to express my appreciation. To an inexperienced mariner they gave assurance and confidence which has meant everything. Cheered on by the loyalty of these, the business trip was transformed into a pleasure cruise. To read the log of all the side trips and port calls would divulge some rare experiences. However, some of the most difficult undertakings, which at the time seemed real problems, now can be recalled, since they are matters of history, as pleasures rather than matters of duty. The legislature has convened. Whether it will ever adjourn we know not! It has changed almost everything except the 25-dollar doctor's privilege tax. After the payment of which there is no restriction put on them for doing one-third of their work for nothing. In fact it is rather expected of them. Through this turbulent session we have been constantly threatened by mines, air raids and land attacks. At times, from propaganda abroad, it appeared that we might be wiped off the face of the earth. So rampant was some of this hot air it seemed that we would not be able to leave the proverbial prosaic greasy spot. However, our ship is still here intact,

with no scars, broken beams, disabled engines, or even the paint rubbed off—sailing on under the same flag.

From an extraneous source came trouble and imprisoned one of our number, but from the kind ministrations of friends and the beneficent aid from the telephone and radio, our member emerged more of a hero than otherwise, our general condition better for his sacrifice.

In all things we have stood together, and from all of those experiences let me say that, though we may appear loosely-joined there is no more compact organization than ours extant.

The Grim Reaper has wielded a cruel scythe during the year, and many of our finest and best, most loyal, useful and lovable have been cut down. We stand with bared and bowed heads to do them reverence. Two of our past presidents, as genial characters as I have ever known, have passed. As we carry on in our everyday affairs there is an aching void in our hearts. We treasure the assurance, however, that as they lived they fought a good fight, kept the faith, and have gone to receive their reward.

During the year it has not been my privilege to visit but five of the 10 districts in the state. However, I was represented in the others by one, Dr. L. B. McBrayer, our most efficient secretary-treasurer for the last nine years, who was much more competent to give advice and counsel and to stir up inspiration. It has been a pleasure to work with Dr. McBrayer. He has coöperated in all matters coming before us, and though he has held all the offices in the society and must have often known that he knew better than

*Delivered at the meeting at Durham, April 21st, 1931.

I did about questions under consideration, yet in deference to my office he treated me as a superior when in reality I was not. He is a tireless worker and gives all the time and more to this office than the office could demand. I state emphatically, after a year of this association with Dr. McBrayer; that he is better informed on the work of the North Carolina Medical Society than any other of its members.

Yesterday was a history-making day with the medical profession in the State of North Carolina. On that day we dedicated the Duke University Medical School, fully equipped in every detail with its allied hospitals. This equipment is the product of the varied experiences of the other medical schools of the country, and, as means were unlimited, the plant we dedicated is as complete as human study and plans could make it. It is a superb institution. As this university stands at the threshold of a life career, what can be more interesting than to think of the history it is to make through the years to come, as it trains our youth in the art of healing and ministering to those in sickness and suffering and distress.

It gives us happy thoughts to be aware of the fact that the group who contemplate taking the long courses necessary to reach the end of medical education can find the most modern and complete plant located within our own state, and in this good city of Durham, and a faculty laboring in their different departments with this splendid equipment by which as good medical training can be received right here at our door as is to be found anywhere in the world.

Dr. Davison has literally spent years in canvassing the entire field of eligibles to select the very best men from the country at large to head and conduct each separate department. He has succeeded wonderfully well and what we are pleased to see is a faculty working together as a unit, capable of doing the very best work.

The members of the North Carolina Medical Society who were born in our state before the end of that time known as the Period of Reconstruction, and a later generation as well, born and reared in North Carolina, know from association and observation if not from actual experience, what it is to be poor.

When we attempt to visualize the total endowment of this institution, we simply have to use our imagination. We can not conceive of it in the realm of reality. By wonderful forethought and generosity this endowment has been placed back of this school to supply its every need and make it in all years to come a benediction.

I pause to remind you that America is the medical center of the world today. No further back than the beginning of my professional life this was not the case. Then we went to Europe for the completion of cultural training, but today the world comes to America to study medicine. Four years ago when this Society met in Durham and Dr. Davison was asked to speak to us and give plans for the medical school, he mentioned the essential factors for success—"the buildings, the staff, the students, the type of teaching, the service to the community, and last but not least, the coöperation of the members of the medical profession in the state." I stand here representing the medical profession in our state and speaking for its members, even to the remotest counties, declaring to you that our hearts overflow with gratitude for this wonderful benefaction. I also speak for the entire profession when I tell you of our pride in this university. We stand ready and eager to coöperate with you in making this the ideal medical center of America. Should this perfect coöperation ever fail, the success of your university will likewise fail. I have faith in the profession in our state that they will do their part.

I have, during the past year, put the question to several of our past presidents: What is our greatest need? What is most worth while bringing to the attention of this body? And it is a remarkable fact that everyone has given in substance the same answer. The greatest need among the men of our profession is development from within—character.

Would these serious-minded and conscientious men be possessed of this conviction if there was not a general anxiety that in the vortex of this age there is an existing danger, a pervading temptation, to which an increasing number are yielding. As Browning has said:

"Whence comes temptation, but for men to meet
And master, and make crouch beneath his feet?"

Intellectually we have advanced. Professional training has reached a state undreamed-of a generation ago. We are using in daily routine discoveries and inventions by which more accurate diagnoses are made, quicker and more comfortable recoveries are brought about. The average length of life is prolonged, and happiness in the world is promoted. A fertile imagination may be able to picture in the years to come a state of things as compared with the present that would make conditions of our life today pale into insignificance, but we have no assurance of the future. We can not know that there will be any improvement. We can even surmise that conditions may be worse than now. We live only in the present.

"The Present, the Present is all thou hast,
For thy sure possessing;
Like the patriarch's angel hold it fast
Till it gives its blessing."

As we pass along this journey of life, what can we be leaving as impressions to the oncoming generation that will help them in solving their problems and enable them to see there is something in life besides prosaic drudgery, that there is beauty and sweetness and happiness and poetry? One may develop physically till he possess a perfect body, rounded out in every part, with a mind, that according to educational standards is flawless. Yet, this perfect body and perfect mind may be a personality utterly worthless. All coming in contact with him and carrying a mental picture of his value will readily tell you that he is a complete failure in the world. That it would have been better had he never been born.

Now, in clear contrast, this perfect body and perfect mind may be so evaluated by all acquaintances that each one hastens to convey to you his precious estimate of this combination as the highest type of man. One so useful, so loved, and so valued that the world will be poorer when he is gone. What is the vital difference? The latter has lived with a consciousness of his immortality.

My appeal is that we bring to our patients and to their anxious families our best knowledge, the truest manhood, the warm friendship which is the outward evidence of a life whose fires burn steadily on the altar of unselfishness and love for others. Let us hold

up the high standards which are our inheritance. And may not one of us be found practicing in his life any habit, or that which tends to become a habit, that will degrade the inward life or lower one whit the dignity of our profession, or our influence as a body. Let us as earnest men face this fact, already reiterated, that the body and the mind however developed and refined by training is as chaff, if the immortal spirit is left wandering in darkness.

The tides of evil are halted and turned back by the firm stand and the stern outcry of the men of ideals, of bedrock principles, of unwavering faith. Are we such men? Is this our stand? Is this the voice of our outcry to our own and following generations? Nay; let it not be left a question; let us affirm our stand for the best in all things, as a society and as individuals, to the last man.

OSSIFICATION IN A LAPAROTOMY WOUND

(Silver, P. G., in *The Canadian Medical Association Journal*, March, 1931)

True bone is reported to have been found in the eye, lungs, heart musculature, blood vessels, urinary bladder, and even in nerves. The case which I wish to report is one in which true bone developed in an abdominal wound following cholecystectomy.

The abdominal wound healed by primary intention, but one month after operation, a small pocket of pus was found near the upper end of the incision. The cavity, which was quite superficial, was evacuated, and the wound healed quickly. Thirty-six days after operation, the wound seemed to be definitely indurated throughout its entire length. The induration became steadily more pronounced until the tissues seemed to be almost as hard as bone. Skiagrams were taken but there was no evidence of calcification of the scar on either occasion. The patient was discharged with instructions to report back to the outpatient department for observation.

On April 1st, three months after operation, x-ray examination was repeated, and an area of calcification was now to be seen in the abdominal wall.

Six months after the original operation, he was again operated upon, under local anesthesia, and the bony plaque removed.

The wound healed by primary union and there is no sign of any further calcification developing. Sections showed on microscopic examination well formed mature bone with Haversian canals, and bone marrow with the usual bone-marrow cells. The margin of the bone was sharply demarcated from the surrounding tissues except in a few small areas where the surface was irregular.

INTRODUCTION OF DR. CAULK

DR. A. J. CROWELL, Charlotte:

Mr. President and Gentlemen: I feel that the man whom I am to introduce needs no introduction to any gathering of American physicians. In the first place, he is an American. In the second place, he is a Southerner. Of course, we Southerners are glad to have a great man go out from the South and make a mark. But, to make it a little closer, he is half Virginian; he was born and reared and educated in Maryland, but he did something that was very fine (and you Virginians know that that is true); he came to Virginia and married one of Virginia's most lovely women. Of course, we are all proud that he is an American and a Southerner, a Virginian and a Marylander. He is a graduate of the Johns Hopkins Medical School; he trained in Boston under Quinby in urology and, to make it still better, came back to his native State and spent a little time, two or three years, with Young. And when a urologist goes out from the Hopkins we know we are going to hear from him afterwards. So he has carried with him into St. Louis the reputation of the Hopkins, and then he has built on that reputation, and when we urologists think of St. Louis naturally we think of Caulk and Bransford Lewis—two of the outstanding men in this nation, men whose reputations are not only national, but international. We are fortunate in having as our guest this man from St. Louis, our own Johnny Caulk, who will now speak to you.

Clinic in Urology*

J. R. CAULK, M.D., St. Louis, Mo.

Medical Department of Washington University

Mr. President and gentlemen, I appreciate very much the opportunity to be with you and address your society.

Dr. Geisinger and Dr. Bryan have been kind enough to bring in a patient who has tuberculosis of the kidney. He is a rather nervous individual and does not know yet that he has tuberculosis, and we thought it unwise to subject him to coming before this meeting. Dr. Geisinger will give you the history of this case.

By request the following case of incipient tuberculosis of the kidney was submitted, with an accompanying x-ray exhibit, by Dr. Joseph F. Geisinger, of the Stuart Circle Hospital in Richmond:

The patient is a white youth of 18, rather actively engaged in his father's grocery store. About a year ago he first noticed, especially after exertion, some pain in his right groin, which did not bother him seriously. Two months ago, following heavy lifting, he developed backache over both renal areas. Persistence of this latter complaint and recurrence of the groin pains led him to consult a physician who at first prescribed a truss for a supposed hernia, but who later observed a certain degree of pyuria and thereupon referred him for urologic study.

With the exception of these details, the history recited by the patient when he submitted himself for this study one month ago seemed mainly inconsequential. Of an excitable temperament, he appeared

nervous and worried. The urinary habit was singularly unsuggestive of the condition actually present. He voided four or five times in the day and none at night. There was no burning, pain, or tenesmus and he had never passed blood or any other visible abnormal elements in his urine. His appetite was quite good but he had some tendency to indigestion characterized chiefly by "heaviness and a lump" after eating. The bowels were quite regular. He had no cough or expectoration or night sweats, though he had a general tendency to free perspiration. There had been no previous illnesses of consequence and no operation except tonsillectomy seven years ago. He denied venereal disease of any description. The family record was essentially negative.

Preliminary physical examination was approached without any definite clues from this history. The abdomen seemed negative. The hernial rings were found to be tight on both sides and without protrusions. The external genitalia were normal. Rectal examination was then made and immediately introduced a surprise. The prostate, especially throughout the left lobe, was nodular and dense to a degree, suggesting either tuberculosis or calculus. Smears from the gland at this time showed a rare pus cell; at another time many pus cells; upon neither occasion any tubercle bacilli or other organisms. The x-ray was negative for shadows in either the prostate or the renal areas. The urine was acid in reaction, contained a trace of albumin, a sprinkling of pus cells with a few clumps, a few epithelial cells and calcium oxalate crystals, and many tubercle ba-

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

cilli. The red cell count was 5,190,000 with hemoglobin of 95. The white cell count was 13,050 with polynuclears 83 per cent; lymphocytes 15 per cent; endothelial leucocytes 1 per cent; and neutrophilic myelocytes 1 per cent.

Cystoscopic investigation was made. The urethra was thoroughly inspected and revealed nothing except some dilation of the orifices of a few of the prostatic ducts. Beyond a mild injection of the trigone and a faint areola about each ureteral os the bladder was likewise negative. Neither its appearance nor its behavior even remotely suggested tuberculosis; manipulations were not painful and distension was well tolerated. A No. 7 catheter slid easily to the right pelvis; on the left side the ureter was quite snug and a catheter slightly smaller had to be used. To reduce the likelihood of contamination the bladder was thoroughly irrigated before ureteral catheterization and the catheters themselves were filled with sterile water and plugged at the butt ends. Collection of specimens from the pelvis was not begun until the bladder was emptied, to eliminate the possibility of reflux. A good drip of urine appeared on both sides, later becoming blood-tinged. The right specimen contained no pus but many tubercle bacilli; the left specimen contained no tubercle bacilli but 1 to 4 pus cells and a few small clumps to the high-power field. Cultures from both sides were negative. The differential dye output was equal but somewhat reduced on both sides. Pyelography disclosed pelvises normal with the exception of slight mid-calyceal irregularity on both sides. The roentgenologist was not inclined to attach any significance to this irregularity, but from the urologic point of view it may in the light of collateral findings be regarded as of considerable interest and importance.

The case now rests at this stage, awaiting the result of the inoculation of guinea pigs which are not yet ready for autopsy. In the meantime the patient has again been examined thoroughly by his physician who can make out no evidence of tuberculosis elsewhere in the body. An x-ray of the chest is negative. Three recent urinalyses have consistently shown pyuria; twice the smears were negative for tubercle bacilli, the third time positive.

The data available to date established the presence of tuberculosis in the right kidney and highly suggest its presence on the left side also, along with a suspicious pathologic process in the prostate evidenced by its physical characteristics and the pus in the smear. The latter, if tuberculous, is unusual in the sense that the epididymitis commonly primary to this condition, is absent. If the renal tuberculous process is eventually proven to be bilateral the case, of course, presents no surgical aspects. If, however, it should appear after further study that the lesion is limited to the right side, upon which the bacilli have been unmistakably demonstrated, the case will then fall into an extremely interesting

group of incipient renal tuberculosis, the surgical attitude toward which has undergone some modification and is now engaging the thoughtful consideration of urologists throughout the country. It is submitted with especial reference to this aspect.

I am very happy that these gentlemen have brought up this interesting subject. Tuberculosis is one of the most frequent types of disease we have to deal with in urology, and one of the most interesting, and the ideas concerning it are now in a transition stage.

Tuberculosis of the urinary tract is a very frequent condition. It is very often primarily renal; it is sometimes secondary to genital-tract tuberculosis but is more commonly renal. Now, renal tuberculosis has been responsible for about a third of the nephrectomies in surgery—a third of the nephrectomies for all disease, I mean. Recently I analyzed our cases of tuberculosis, and out of some 500 operations on the kidney it was found that tuberculosis was the cause in almost 28 per cent. The frequency of tuberculosis has lessened a good deal in the last ten years. It was for that reason I began to investigate our kidney cases. I had the impression that tuberculosis of the kidney was declining and found that during the last ten years we had had 25 per cent diminution, which is almost comparable to the diminution in massive pulmonary cases. Now, we think that our smartness in diagnosis, treatment with the catheter, etc., has prevented destructive inflammatory lesions, pyonephrosis, stone, and the like; but we can not lay claim to that in tuberculosis. So it resolves itself into something else—that is, that medical men are diagnosing their cases earlier, getting hold of them earlier, protecting them from massive pulmonary infection. Irradiation, the feeding of vitamin B, etc., etc., are protecting them against renal invasion.

Taking the ten-year period right along, we find there is still a decided diminution in the frequency of urinary-tract tuberculosis.

As far as age is concerned, of course it is in young persons. As to sex, we find it a little more frequently in the male. As to race, we find it much more frequently in the white race; in our community the proportion is 20 to one. Yet one would expect, from the frequency of tuberculosis in the Negro, as compared to the white, that there would be

more renal tuberculosis; but they are massive and kill and do not go on to these late renal processes.

So far as the symptoms are concerned, of course the classical ones are familiar. Frequent urination, out of a clear sky, in a young person without gonorrhea. The patient has remissions, gets better and then gets worse; each time gets a little worse. There is a tendency to urgency urination with terminal spasm and hematuria. Silent kidney. Very few have renal pain.

Here is a patient that demonstrates a most interesting thing; a thing we see only occasionally; fortunately, too, for he had it early. It would be fortunate if the rest had it earlier. They are usually treated by injections, etc., of the bladder until late lesions have occurred in the bladder and in the kidney; in the other kidney, also, either from metastasis or regurgitation.

This man has no evidence of tuberculosis so far as you can see. The only fact that makes you think of tuberculosis is finding the tubercle bacilli in the urine and a prostatic lesion. There are some changes absolutely typical of tuberculosis, but often even with those changes we have a very difficult time finding the tubercle bacilli in the urine. It seems to me as though we should find them in 85 per cent or maybe 90 per cent of the cases, but I am embarrassed to tell you we do not find them in anything like that number. Unless one sits down and makes a search of many slides one will not find them, as a rule; and it is very gratifying to find them so early as in this instance.

That brings up the question of excretory tuberculosis. Lawrason Brown said years ago that of course the kidneys excrete tubercle bacilli in the urine, but that has been discredited. When tubercle bacilli are found in the urine there is a definite tuberculosis in the kidney or urinary tract and not an excretory tuberculosis from some other lesion.

When we find it, the question is what to do. I have had several cases who had no cystoscopic evidence suggestive of tuberculosis. I have had two cases that had severe hemorrhage from the tuberculosis, and nothing else; we did not find tubercle bacilli, and the guinea-pig test was negative. Finally one case, a woman, almost bled to death, in spite of transfusion. So I took the kidney out. It

looked almost normal, but on careful inspection we found a small lesion, on serial section. These early lesions do not confront us often, though they may confront us more often than we believe. Probably we miss a lot of them, where we get negative findings and do not find tubercle bacilli in the urine; we pass them up, and they go to someone else, who will find more advanced tuberculosis and cure the patient.

With definite tuberculosis we do not pay any attention to function; that is one type of kidney we do take out in spite of good function. But with a tuberculous process, the guinea-pig test positive, tubercle bacilli found—with these findings it is pretty certain of a tuberculosis.

I have said I know less about pyelograms the more of them I see. Now, we have disregarded muscle spasm, and we can never disregard muscle spasm. Such a thing as is shown in these plates might come from muscle spasm, but you have to take the combination of things to really interpret an early change like this in a calyx. The other side looked much more definite than this.

Now, bilateral tuberculosis, of course, is common. Bilateral tuberculosis, Braasch says in his analysis, is far more common than we have heretofore supposed. As we see surgical tuberculosis, chronic surgical tuberculosis, we find it a unilateral affair. Now, most of them are that way. Whether the others have healed, or died, when they are bilateral early, we do not know. The question of diagnosing bilateral tuberculosis is a tricky thing at times, particularly sometimes when there is a regurgitation of the contents of the bladder up to a perfectly normal kidney. Sometimes after we have taken out the bad kidney, the other side clears up. I think that is the reason why the removal of a seriously diseased tuberculous kidney has helped the kidney on the other side. I have never found any benefit to a definitely tuberculous kidney from removing the more diseased mate.

The association of genital-tract tuberculosis and renal tuberculosis is a very frequent thing. The only warning to the man in practice is not to treat these bladders symptomatically. The average time of treatment before our patients came to us (and I dare say that represents a cross section of the country—I mean we are of average intelligence out in

our neighborhood) was three years and eight months. I mean they had been treated with medicines, etc. Of course, they had remissions, but they had gone three years and eight months without further study. Now, not only can the other kidney get hurt, but the bladder (which, to my mind, is tremendously important) can be damaged. The tendency of tuberculosis is to undermine; tuberculosis invades the muscle fibers and muscle tissues, and when it gets into the bladder wall it takes a very long time to heal. So I think the patient should be protected from the chronic pouring in of tubercle bacilli into the bladder. I say this because I have not been definitely converted to flirting around when there is definite tuberculosis of one kidney.

I have two cases in young people, who had definite symptoms. I have watched them, have fed them vitamins, fats and everything else. One is worse, and I am about to nephrectomize him, and the other is about stationary. Now, we may perfectly well give these people the advantage of hygiene and all that, as we do with tuberculosis elsewhere, provided the process is not progressing; but if the bladder symptoms are progressively getting worse, I think we should remove the kidney. And when urologists say today to remove a kidney it is significant, since they have cut down nephrectomies tremendously for other lesions. I think early tuberculosis on one side requires nephrectomy when it is proven. I am certainly for removing that type of kidney if it is progressive at all.

Now, so far as the surgical technic is concerned. Ordinarily I do a simple nephrectomy. A lot of men have magnified, as far as I can see, the importance of the ureter. Some surgeons do a complete removal of the ureter. Some do it in one stage, some in two; some do it through one incision, some through two. I have never removed the ureter completely in tuberculosis. I take it out down to a comfortable location only. I treat them all the same—burn them off, drop them back, without drainage. I have yet to see but a single case have trouble from the ureteral stump, in 100 nephrectomies. That is about what Young says; he had 112, I think. The only case I saw who had trouble with the ureter afterwards was the wife of a doctor friend, who had very early tuberculosis of one pole of the kidney. The kidney was re-

moved, and a year later she had the same trouble, pain in the right groin and some temperature, from $99\frac{1}{2}$ to $100\frac{1}{2}$. We found a pin-point ureter in which there was inspissated pus; with ureter catheter drainage she completely recovered. I have watched her for eight years, and she has remained well. So I do not think it is necessary to complicate the operation. When we have persistent sinuses, I think it is due to infection in the perirenal fat. So if you have any time, instead of taking it up in removing the ureter, I think it is well to devote it to the removal of that perirenal fat and the lymphatics there.

The mortality from nephrectomy in tuberculosis is very, very slight—about as little as in any type of surgical operation on the kidney. The results from nephrectomy are varied, of course. Dr. Lower, of Cleveland, said that the convalescence—that is, the cure of symptoms—lasted about as long after the operation as the symptoms had been beforehand. From our experience we can make no rule. Some in 24 or 48 hours have shown very great improvement in the bladder symptoms; others have taken a long, long time to heal. Sometimes when the bladder is fiery red, angry, ulcerated, on removal of the kidney it has immediately cleared up. I asked a man interested in general tuberculosis why, and he said because of the removal of the tuberculin reaction. That is the reason why the more or less acute bladder will respond more readily than the old, chronic type. I have brought that out by injecting tuberculin; immediately the bladder symptoms started up again, only to subside later.

About the persistence of the sinuses, of course that also varies. You must not get discouraged. Sometimes you feel you have left a foreign body in the wound, and perhaps maybe you have. But as a rule these sinuses from tuberculosis last longer than in any other type of kidney disease. I have had them go on, and almost everybody else has, for years and years. Sunshine, etc., and mild curettings down the sinuses will gradually cure them up. Some of the dirtiest cases where we have broken into an abscess of the kidney and have messed up the whole perirenal space, will heal right off. That does not seem to affect them. There is just something about the patient's resistance and about the amount

of fat and the virulence of the organism that is responsible. Tuberculin in gradually increasing doses, sunshine, and artificial sunshine have a beneficial effect. Of course, some of them keep on; they do not heal; I have some that I just can not heal.

Now, residual cystitis. The patients that get well get well quickly, if the invasion has not been going on long enough to replace the muscle with scar tissue. That is the danger with delaying operation, and why we should not take a chance on letting the bladder be invaded. Instillations are important; irrigations dangerous. We use various things. Some of the patients gradually get well; some never get well. But in our series 70 per cent are cured, and if they are cured early they stay cured. If they do not get well, there is something in the other kidney.

By request Dr. A. T. Dodson, Richmond, presented the following case report:

Master B. G., age five years. Diagnosis: Exstrophy of the bladder and congenital right inguinal hernia.

Past History: Normal delivery at term. With the exception of inconveniences caused by a congenital bladder defect and congenital right inguinal hernia, the child has developed normally. On July 12th, 1927, the hernia became strangulated and was operated upon. The hernia recurred within six months following the operation.

Present Illness: The patient suffers from an exstrophy of the bladder, with a resulting complete incontinence of urine. He was admitted to St. Elizabeth's Hospital on April 22nd, 1930, for operation. Physical examination showed a fairly well-nourished child, skin and mucous membranes normal and of good color, teeth in fair condition with the exception of small cavities, tonsils apparently normal, glandular system negative; chest normal, blood pressure 90/50, pulse regular; no distension and no palpable masses in the abdomen; reflexes normally active and equal. There was a red, granular area just above the pubis from which urine dripped constantly. There was a defect in the pubic arch. Specimen of urine was cloudy, acid in reaction, and contained a trace of albumin and a few pus cells. Hemoglobin 65 per cent, r. b. c. 3,000,000, w. b. c. 7,160 with 60 per cent polymorphonuclears. Blood Wassermann negative.

He was operated upon, under ethylene-ether anesthesia, on April 24th, 1930. The right ureter was transplanted in the upper rectum, and the left ureter was transplanted in the lower sigmoid, using the Coffey method with ureteral catheters fixed in the ureters and brought out through the anus for drainage. The operation lasted 2½ hours. The patient left the table in good condition. The catheters drained freely from the start. The patient did well

for three days when he began to show evidence of acute intestinal obstruction, with distension, nausea and vomiting. On April 27th, 1930, two enterostomies were done, one in the lower ileum and one in the jejunum. Following these enterostomies, the patient's convalescence was normal. The enterostomy tubes were removed about a week following their insertion. The right catheter became obstructed and was removed on the third day. The catheter on the left side was removed on the fifth day because of obstruction. The patient ran a fever from the date of operation, the temperature at first ranging from 99 to 100, going to 104 on the fifth post-operative day, and gradually subsiding until it became normal on the 16th postoperative day. Following removal of the catheter a large catheter was placed in the rectum for the purpose of drainage for about two weeks. Following removal of this catheter, the patient expelled urine by bowel at intervals of about two hours. The patient left the hospital in good condition on May 23rd, 1930.

His condition has been entirely satisfactory since leaving the hospital. At the present time, February 17th, 1931, he has gained weight, takes part in the normal activities of a child of his age, retains his urine four hours during the day and frequently retains it throughout the entire night.

This case, gentlemen, is a case of exstrophy of the bladder. About the only thing I can do is to congratulate Dr. Dodson on his splendid result. These cases are pitiful if they are neglected. About the only thing that can be done to relieve them is, of course, a plastic and transplantation of the ureter into the sigmoid. Dr. Dodson here put both ureters into the sigmoid, and he will later do a reconstruction of the genital tract. This transplantation of the ureter into the bowel is not only helpful in things like this but also in severe traumatic injuries and in carcinomas in which one hopes to perform a total cystectomy. Dr. Dodson has secured an excellent result and I compliment him.

DISCUSSION

DR. H. W. MCKAY, Charlotte:

I should like to ask two questions. First, if it is not advisable in the post-operative treatment to use suction on the catheter. And, second, in what way, if any, has Dr. Caulk modified the blade of his punch.

DR. T. M. DAVIS, Charlotte:

Dr. Caulk made such a complimentary speech about what I showed him that I am a little bit too nervous to get up here and discuss a paper. I think Dr. Caulk and myself are rather the Gold-Dust Twins; we are both in about the same position. I think he has been called crazy, and they have cer-

tainly told me I am crazy in attempting to remove these obstructing glands by anything short of prostatectomy. But I am absolutely positive Dr. Caulk is right. It makes no difference what instrument you use if you use it skilfully. We all know Dr. Caulk is an unusually skilled operator, and he certainly gets results through the transurethral resection or transurethral punch operation. I believe the tide is now turning in favor of the transurethral methods. It is certain that the friends of the patients who have had transurethral operations will not submit to a prostatectomy. There is no question about completely relieving these cases. I believe Dr. Caulk is right that you do not have to remove the entire prostate gland; I do not believe you have to remove all the prostatic tissue. I probably do not take out as much as Dr. Caulk does. You will notice that Dr. Caulk's sections are larger than mine; I probably have to take out two or three sections to one of Dr. Caulk's. If he takes out 10 sections I would have to take out 30 to equal the same amount of tissue. I believe the capsule of the gland encroaches on the sphincter and that is where you get the obstruction. By cutting that capsule, even if that gland does increase in size (they ought to be followed up afterwards, but some of them are so well pleased with the result that you do not see them again), I believe by cutting that capsule the gland will grow intravesically and will not give obstruction. I firmly believe that the transurethral method is the method of choice for all vesical neck obstruction.

I certainly enjoyed Dr. Caulk's paper and enjoyed his pictures showing the work he is doing. He is really the father of the use of the punch operation for the removal of anything but the small median bar obstruction, and no doubt all credit is due to Dr. Caulk in removing the lateral lobes for carcinoma of the prostate gland.

DR. CAULK, closing:

As far as the suction goes, I try not to make suction to amount to anything. The catheter is inserted with this large eye, which we attempt to place directly on the base. If there is any impediment to the flow of urine or to drainage a little water is put in to clear the eye. We make no forcible suction or irrigation.

I am using the original blade I started with. If you are careful it will last a long, long time. The main trouble men have had is after they get the blade down to the sheath they turn on the heat, which will injure the blade. But if you wait until you hear it sizzle, then make the rotary motion, it will last a long time. A bakelite blade has been perfected, because men have complained of the delicacy of the platinum blade, but I still stick to my first blade.

FUNCTION DISORDERS OF THE HEART

(Willius, F. A., *Journal of Iowa State Medical Society*, January, 1931)

The most important symptoms of cardiac neurosis are palpitation and tachycardia. They result in heart consciousness. Under average normal conditions, complete lack of heart consciousness is of course the rule.

The physician must be interested and sympathetic and he must realize that argument without clear portrayal of facts is a waste of time. The patient must be told the true nature of the derangement in carefully chosen words. It is always well to emphasize the fact that the complaints are not imaginary, as indeed they are not.

Most patients who suffer from serious or advanced heart disease display few if any neurotic manifestations. Certain patients afflicted with organic heart disease, however, have well marked cardiac neurosis.

In cases in which the neurogenic basis of the disorder is clearly established the patient must be impressed with the fact that although the disorder is unpleasant and disconcerting, its nature is not serious, that he will not die in the attack and that emotional display and apprehension at the time of the attack sets the stage for the next attack.

Sino-auricular block or complete cardiac standstill is, according to present knowledge, the result of vagal augmentation. An occasional interruption in rhythm may be mistaken for the compensatory pause following a premature contraction, but prolonged interruption, when three or more beats fail to appear, is fairly clear-cut clinical evidence of the condition. If the cardiac standstill is sufficiently long, syncope or convulsive syncope may occur. The author has never seen a case in which death resulted from this disorder.

A SIMPLE RAPID PROCEDURE FOR THE LABORATORY DIAGNOSIS OF EARLY PREGNANCIES

(Friedman, M. H., and Lapham, M. E., in *American Journal Obstetrics and Gynecology*, March, 1931)

The materials and equipment necessary for the performance of the proposed test are: (1) an ordinary bedpan specimen of urine, (2) a 5-c.c. syringe, and (3) an unmated, mature female rabbit. The urine is injected intravenously thrice daily for two days in 4-c.c. doses. Forty-eight hours after the first injection the rabbit is killed. If the ovaries contain either fresh corpora lutea or large bulging corpora hemorrhagica, the reaction is positive and the patient who furnished the sample is presumably pregnant. If the ovaries contain neither corpora lutea nor corpora hemorrhagica, but only clear, unruptured follicles, regardless of their size, the reaction is negative.

The results obtained with this procedure have proved to be correct in each of the 92 cases for which we have satisfactorily completed records. To date, we have been unable to discover a single instance wherein the laboratory findings were in error.

Clinic in Surgery*

EDWIN P. LEHMAN, M.D., University, Va.
Department of Medicine University of Virginia

I want to speak briefly about a matter that is commonplace but of extreme importance, the question of burns. Of course, it is an enormous subject, and I cannot touch all its aspects. I shall limit myself to burns from heat.

First, let me say a word or so about the classification of burns. You are familiar with the two common classifications, that including three degrees and that including six degrees, the former being more common in this country and the latter abroad. The first classification (Hebra) has erythema as the first degree, vesiculation as the second and eschar as the third. In the second (Dupuytren) the first two groups are the same; the third is partial destruction and the fourth complete destruction of the skin; the fifth includes muscle injury, and the last, or sixth, complete destruction of an extremity. Now, either of these classifications is useful to a degree, but we cannot ascribe too much importance to them. The important point, so far as healing is concerned, is, of course, the depth of the burn at any one point in relation to the deeper skin structures. If the damage remains above the adipose subcutaneous layer including only a portion of the dermis, which contains the sweat glands, etc., then one may hope for rapid recovery without extensive areas of granulation tissue and with minimal scar.

Now, it is impossible from any clinical inspection to tell where most burns fall in the classifications. We can tell that a burn comes in the fourth, fifth or sixth group of Dupuytren or in the third group of the other classification. I do not see any accurate way of telling in burns that lie between simple erythema and massive eschar formation, whether or not the destruction leaves any epithelial elements.

A few years ago there was some vogue for debridement of burns. The real criticism against this method lies in the consideration just presented. It is impossible during debridement to find the exact line of division

between damaged and undamaged tissue. Debridement therefore is very apt to remove viable epithelial elements which might later after separation of dead tissue be the centers for epithelial growth.

Our inability to estimate the depth of burns makes us rather helpless in formulating the late prognosis, that is the prognosis in regard to time of recovery. On the other hand the immediate prognosis, that is the prognosis for survival, during the most dangerous period can be formulated on the basis of the surface extent of the burn. The estimation of the area burned and the recording thereof should be of the greatest value. The familiar facts about the relationship of areas to survival, I need not present. Let me mention briefly a simple rough method which is as accurate as we need to use, namely that devised by Berkow. He has estimated the various areas of parts of the body in percentage of the whole. For example the trunk may be taken as 38 per cent, each arm as 9 per cent, etc.

The ordinary clinical phases of the course of burns are, of course, first, a period of primary wound shock for the first twenty-four hours; second, a period of toxemia beginning during the first twenty-four hours and lasting for several days and third, a period of infection which may begin about the same time and remain until healing has occurred. I wish to review briefly the pathological physiology of the second period, namely that of toxemia.

What is known of the changes that occur in the organism during the phase of toxemia? First, and most important, is an increase in blood concentration. This occurs almost immediately and lasts for a number of hours up to about forty-eight, if it is compensated. If it is not compensated it continues to death. The mechanism of blood concentration is supposed to be a tremendous outpouring of the blood plasma into the burned area resulting in edema. There is, of course, also loss of blood fluid with increased depth and frequency of respiration, with fever and so forth. By compensation for the loss of blood plasma

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

we mean in the first place the cessation of the immediate tremendous outpouring, and in the second place the making up of blood fluids from the tissues and from fluid intake. In burns of slight extent these two processes may be spontaneous and the increase in concentration disappears. The measure of blood concentration may be made clinically with sufficient accuracy by hemoglobin estimation coupled with red cell estimation. The degree of concentration is sometimes extraordinarily great. Underhill called attention to cases that showed a blood concentration of 140 per cent. His estimations, made on a number of cases burned in a theatre fire in New Haven, were not recorded until at least twenty-four hours after the burns had occurred. The cases supposedly had not had treatment during that period. With early proper treatment one does not see anything like the increase in blood concentration that I have mentioned. Underhill concluded that a blood concentration of 125 per cent was compatible with recovery; if above that level all patients die. The significance of increased blood concentration in the functioning of the organism is great. It results in increased viscosity in the blood, in slowing of the blood stream and decrease in the cardiac intake. These, of course, result in tissue asphyxia. With this also there is dehydration of tissue cells through their response to the increased concentration of the blood.¹

The second most striking change in the organism is the loss of blood chloride which occurs to a marked degree and very rapidly. The blood chloride, as you know, is normally around 500 milligrams. In severe burns it will drop to as low as 160 milligrams. What the mechanism or the significance of this occurrence is we do not at all understand. Underhill believes that it is entirely accounted for by the loss of blood plasma, that is, that the fluid in leaving the blood stream carries with it the chloride and that therefore the increase in concentration is proportional to the loss of chlorides. Unfortunately his figures do not entirely confirm this conception. Davidson, with whose work you are all familiar in relationship to the tannic acid treatment of burns, found in one case that the urinary chlorides, which had dropped with a decrease in blood chlorides, remained low in spite of an increase in blood chlorides, until the period of healing. At this time the urinary chlorides rose above the normal as though

there had been storage of chlorides somewhere in the body.

In addition to these changes in blood make-up there are seen usually a slight acidosis, rarely of clinical importance, and an increase in the blood sugar during the early phases.

Then, of course, there is also the very typical and very familiar clinical state resembling toxemia, namely increased pulse rate, increased temperature, vomiting, mental changes ranging from drowsiness and apathy to active delirium, and ultimately death. A search for the reason why these clinical and chemical changes occur has formed a large chapter in the literature of burns. The common and most accepted explanation is that a toxemia is present. As Pack, in his recent book points out, there have been something like 28 or 29 different substances which have been accused of being the toxic substance in burns. As he says, when one gets such an array of possibilities it is pretty sure that none has been definitely incriminated. The presence of toxemia has been borne out by suggestive experimental work which has not been done in sufficient volume to be definitive. These experiments include crossed circulation between a burned animal and a normal animal with a development of symptoms in the normal animal. Unidentified toxins have been found in the urine of burned animals which will produce a toxemic state in other animals. The usual explanation is that the toxin is some form of split protein product arising from the breakdown of tissue proteins at the site of burns. This explanation probably must be accepted for the time being.² Davidson's work on the use of tannic acid as a coagulant of the burned tissue is based on this idea. Underhill, however, who has done a great deal of work on fluid interchange in burns, feels that there is still no evidence that a toxin is responsible for these changes. It is significant that Pack, who worked with Underhill originally, now feels apparently, to judge from his book, that Underhill cannot explain all his phenomena on the basis of loss of plasma from the blood.

There is one other factor that must not be ignored. Weiskotten and others have noted the occurrence of hemorrhage in the adrenal in death from burns. With increase in our knowledge of adrenal cortical substances we may find some association between damage to the adrenal and the constitutional changes of burns. We must remember, however, that

the damage to the adrenal must also be explained; and thereby we come back again to the idea of a toxin circulating in the blood stream.

I want to show three charts and discuss briefly three cases that illustrate these changes. The first case is that of a child with a flame burn on the chest, neck and face covering probably about one-twelfth of the body surface, a child of two, who, although presenting somewhat the picture of toxemia when he reached the hospital, very promptly recovered from it. The hemoglobin estimates, which were taken more than once a day for the first few days, showed no reading over 88 by the Sahli method. The red cell count was 4,000,000 and the blood urea 34 mg. This child, therefore, had a burn of such slight extent as to show none of these changes that we have been discussing.

To go to the other extreme, the second case is that of a child of six who suffered a flame burn of about one-half of the body surface. The child was brought about eighteen miles to the hospital and the first studies were made within three or four hours of the time of the burn. They showed a red cell count of 6,000,000 and hemoglobin of 118 per cent by the Sahli method. The child was vomiting so frequently that the fluids could not be given successfully by mouth. She presented a problem that was exceedingly difficult for us because she was a rather over-weight child with no visible veins, and because most of the surfaces, in which veins can ordinarily be found, were burned. She had a fluid intake as high as 7200 c.c. in twenty-four hours, which must be considered satisfactory for a child of her age. It was given partly by duodenal tube placed through the nose until vomiting prevented the continuance of this method. It became necessary then to cannulize her external jugular vein. In spite of adequate intake by these methods, the patient died very suddenly on the fourth day. No postmortem was permitted. We thought it possible that death might have been due to a pulmonary embolism from a thrombus in the external jugular vein. We have no proof of this occurrence, except for the rather sudden death from the toxemia we are discussing.

The third case, which lies between the first and second in severity, was again a flame burn which covered very nearly a third of the body.

This woman when she came in had a hemoglobin of 110 per cent associated with a red cell count of somewhat over 6,000,000. The first reading of her blood chlorides on the day after the burn was 160 milligrams. We were again faced by a difficult problem in this case because of the unavailability of the veins. She had a good deal of subcutaneous fat, the veins were small and the antecubital fossae were burned. For the first few days she was given normal salt solution intravenously, 4000 c.c. per day and was permitted to take what she would by mouth as governed by her thirst. Her intake arose to over 10,000 c.c. a day and on one occasion over 11,000 c.c. With this intake there was a prompt drop in the hemoglobin and the red cell count to approximately normal, and a moderate drop in the pulse rate and the temperature. She showed corresponding improvement in regard to her mental condition. At the outset she was very alert and active, apparently on the verge of delirium. Following this flooding with fluids her mental state became quieter. At this point we ran out of available veins from thrombosis. We thought that probably she could keep up sufficient fluid by mouth at this time to avoid a second increase in her blood concentration, inasmuch as she was not vomiting. We therefore let her take as much as her thirst demanded. Her intake dropped promptly to as low as 4800 c.c. a day, which, of course, in the ordinary case, we would consider more than adequate. With an intake for several days between 4800 and 6000 c.c., the hemoglobin did not show any rise; the period of blood concentration was over. The striking fact now is that the blood chlorides which had risen to 500 during the period of very high intake of saline promptly dropped off again to 160. This indicates quite clearly a factor, as Davidson and Pack point out, in the loss of chlorides which is not to be explained entirely by loss of plasma, as Underhill would explain it. This second change in the blood chlorides must probably therefore be considered as an expression of toxemia, for lack of a better explanation. With the second drop in blood chlorides we felt that it was wise to increase the saline intake once more. We were able again to bring it up to about 10,000 c.c. by the use of a duodenal tube placed through the nose and attached to a reservoir of saline in the ordinary manner of the Murphy drip. This total intake included

what she would take by mouth. The treatment was continued for twenty-two days. When we discontinued it thirty-five days after the burning there was no drop in blood chlorides.

We would have been interested in comparing the urine output during this period with the enormous quantities of fluid introduced. Unfortunately the patient was incontinent and although we could collect samples for analysis we could not get any accurate figures on total excretion.

Infection of moderate severity developed and with it a secondary anemia. We attempted to get blood for transfusion but were unsuccessful until the latter phase of her illness. The patient is now undergoing skin grafting.

The practical point that I want to make as the crux of this discussion, particularly in reference to the last case presented, is the importance of the enormous amounts of fluid in the form of saline. This patient was very sick. She had a burn, the area of which was close to that which is usually described as lethal. There is little doubt in my mind that she would have succumbed without such extremely active treatment. The amounts that we usually consider adequate, 4000 c.c. to 5000 c.c., in flooding patients with fluid may be totally inadequate in burns. We must judge of the adequacy of our treatment by adequate study of the chemical changes in the blood, of the blood concentration and of the clinical picture. An adequate intake of saline will result in a drop in hemoglobin and a rise in chlorides, that is in a restoration of the normal makeup of the circulating blood, and in a very striking improvement in the constitutional symptoms and signs in these extensive burns.

Of course the picture is often confused, as it was here, by shock in the early stages and by infection later. Fortunately this treatment is of common value in both types of complicating factors. It is impossible to emphasize too strongly the importance of this flooding with salt water.

I have not attempted in any sense to cover the question of burns. The dressing of the wound, the avoidance of contractures, choice of methods and time of skin grafting, methods of combating infection, all these are enormous subjects in themselves. I have tried only to bring out the value of this one all-important factor in the earlier treatment of severe extensive burns.

1. Experimental work published since the presentation of this discussion tends to discredit the idea of tissue dehydration following loss of blood plasma. See papers of Blalock and his co-workers, *Archives of Surgery*, vol. 22, pp. 598-648, April 1931.

2. Blalock and his co-workers in the papers cited also cast doubt on this conclusion.

DISCUSSION

DR. A. McNEILL BLAIR, Southern Pines, N. C.:

I should like to ask Dr. Lehman about the incidence of blood in the urine and also about the duodenal ulcer that occurs so frequently in extensive burns, and what his explanation for these things is.

DR. LEHMAN, closing:

I do not remember having seen blood in the urine. It would be interesting to know whether it was blood or hemoglobin. In my experience the urinary changes have been very much less marked than one usually finds described in text books. The third patient had an occasional slight trace of albumin in the urine. Whether extensive flooding with water had something to do with this absence of evidence of kidney damage, I do not know.

I have never personally run into Curling's ulcer. It is found in a relatively small number of deaths from burns, about 6 per cent. How often it occurs during the healing of burns we do not know. The mechanism of its occurrence has been very widely discussed and no satisfactory explanation has been found. Thrombosis, possibly on the basis of increased blood concentration, septic embolism, and other possible explanations have been proposed. It has even been seriously suggested that the inhaling of flames might be responsible. This, of course, is absolutely beyond the bounds of possibility, inasmuch as with the duodenal ulcer no ulceration is found in the mouth, esophagus or stomach. There is one possible etiology that has not been suggested in the literature. We know, of course, that duodenal ulcer is influenced by disturbances in the acid-base balance about the pylorus. If hypochloremia lasts long enough and is severe enough to cause a gastric achlorhydria, one will have such a disturbance in acid-base balance. This mechanism may be very tentatively suggested. One must remember that achlorhydria occurs frequently under other circumstances without the development of ulcer. Whether or not achlorhydria itself occurs has, as far as I know, not been determined. We are going to study our burns from now on with that point in view.

THE TREATMENT OF PNEUMONIA

(Lord Dawson of Penn, in *The Lancet* (Lond.), March 21st, 1931)

Alcohol has the advantage of being a food which requires no digestion. It lightens worries and helps repose and sleep. Its quality matters greatly. It is seldom wise to press it on those who dislike taking it. But, with alcoholics remember that "he that drinks him hell he gives."

The Accessory Bones of the Foot*

An X-Ray Study of the Feet of 1,054 Patients

A. R. SHANDS, JR., Durham, N. C.

From the Orthopedic Department of the Duke University Medical School

There is a great need for being thoroughly familiar with the normal and abnormal x-ray appearances of bones. This is especially true in the practice of traumatic surgery and industrial medicine. Often a decision involving the settlement of large sums of money depends upon whether there is or is not a fracture present as a result of an accident. Little emphasis has been put upon the extra ossicles and small pieces of bone found about the foot and ankle. Very few persons realize, without making a special study, that there have been described, in addition to the normal 28 bones of the foot, 21 separate and distinct accessory bones¹ any one of which may be evident in an x-ray.

This number of accessory bones of the foot is divided into 2 distinct groups: 1. those bones which are contained within the fibers of a tendon and are true sesamoid bones, and 2. those bones which are not within a tendinous structure. In the first group there are 7; in the second group there are 14. These bones are found distributed through the whole structure of the foot from the posterior portion of the astragalus to the terminal joints of the toes. Among the first to call attention to an accessory bone was Vesalius² in 1568. In this year he described an extra ossicle of bone lying adjacent to the proximal end of the fifth metatarsal bone which now bears his name. This was followed by descriptions of the accessory scaphoid in 1605 by Baulin.³ In 1804 Rosenmuller⁴ gave a beautiful description of the os trigonum. But the first pieces of work, which are classic in the literature, are the monographs of Pfitzner⁵ in 1896, and Dwight⁶ in 1907. Pfitzner's work was done before the days of the x-ray. He made 840 dissections in the anatomical laboratory and found these accessory bones in 25 per cent of his cases. The work of Dwight was done after the general use of x-rays in the examination of bones and joints.

The present study which has been made by the author and is here reported, was done in conjunction with Dr. E. M. McPeak of the Emergency Hospital, Washington, D. C. The x-ray files of this hospital have been examined back over a period of four years during which time about 10,000 x-rays had been made. There are found in these files 1,054 cases with x-rays of the foot and ankle. These x-rays had been taken routinely in the course of hospital diagnosis and treatment. The fractures present in these x-rays have been noted as well as the presence of the accessory bones. Most of the fractures observed have been previously reported in two publications.^{7 8} Of the feet examined in the 1,054 patients there are 47 in which x-ray examinations were made of both feet. There are 1,101 separate x-rays of feet. In this number there are 404 x-rays made in which an injury is looked for in the foot. There are 721 in which the suspected injury is in the ankle. The lateral views of all the x-rays are essentially the same. Unfortunately, the anterior-posterior x-rays of the ankle joint will not show accessory bones in the foot and, on the other hand, anterior-posterior x-rays of the foot will not show accessory bones about the ankle joint. This fact must be taken into consideration in the analysis of the x-rays. All accessory bones can be seen distinctly in the lateral x-rays except the accessory scaphoid and those lying between the cuneiforms and proximal ends of the metatarsal bones.

In the classification of the accessory bones it is thought advisable to put them into two distinct groups: 1. those bones which lie posterior to the proximal ends of the 5 metatarsals. These are the tarsal accessory bones. 2. those bones lying anterior to this point and should be called the accessory bones of the forefoot. Holland¹ has described 15 bones falling within the first group. Only one of these 15 bones is a true sesamoid bone, con-

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

tained within the fibers of a tendon. A list of these bones is given below:

1. Accessory scaphoid or tibiale externum
2. Os trigonum or accessory astragalus
3. Os vesalianum tarsi
4. Secondary os calcis
5. Astragalo-scaphoid bone of Pirie
6. Secondary cuboid
7. Intermetatarsium
8. Os intercuneiforme
9. Os paracuneiforme
10. Os uncinatum
11. Secondary astragalus
12. Os subtibiale
13. Os sustentaculum proprium
14. Ossicle adjacent to peroneal process of the os calcis
15. Peroneum or sesamoid in the tendon of the peroneus longus.

According to Holland¹ there are 6 supernumerary bones in the second group. These are listed below:

1. At the interphalangeal joint of the big toe
2. On the tibial side of the metatarso-phalangeal joint of the 2nd toe
3. On the fibular side of the metatarso-phalangeal joint of the 5th toe.
4. On the tibial side of the metatarso-phalangeal joint of the 5th toe
5. Opposite the distal interphalangeal joint of the 2nd toe
6. On the tibial side of the metatarso-phalangeal joint of the 4th toe.

The sesamoid bones beneath the big toe are constant factors in all feet, and have not been included in these extra ossicles of the foot. The variations in the structure of these sesamoids will be given later.

The accessory bones of the tarsus form the major portion of the extra bones, and are the most important. However, a word of explanation should be given first about the small ossicles found at the proximal end of the 5th metatarsal. It is believed that in a great many of the x-rays examined it cannot be told definitely whether the accessory bone at this point should be called an os vesalianum or an extra epiphysis of the proximal end of the 5th metatarsal. If the age of the patient is apparently under 16 years, this extra bone has been called an extra epiphysis.

There are 255 accessory tarsal bones observed (*Chart 1*). There are 124 or 48.6 per

cent of the peroneum type. Next in order of frequency are the small ossicles found posterior to the astragalus, called the os trigonum. There are 23.9 per cent or 61 of this type. The accessory scaphoid which is thought by many writers to be the most frequently observed accessory bone of the foot is found in 13.6 per cent or 35. The small piece of bone found anterior to the anterior projection of the os calcis, spoken of as a secondary os calcis, is found in 5.1 per cent or 13. There are 6 true bones of the os vesalianum type found in adults or 2.3 per cent. The piece of bone sometimes spoken of as the astragalo-scaphoid ossicle or Pirie's bone is present in 5 patients or 1.9 per cent. The same number of the intermetatarsium type or that bone between the proximal ends of the 1st and 2nd metatarsal bones, is present, constituting again 1.9 per cent. There are 5 patients who show definitely an extra epiphysis at the proximal end of the 5th metatarsal or 1.9 per cent. There is 1 case in which there is a small ossicle found between the 1st and 2nd cuneiforms, called an os intercuneiforme. This constitutes .4 per cent of the total accessory bones.

There are 234 patients studied who show 255 accessory bones of the foot, which is 22.2 per cent of the 1,054 cases. There are 17 cases showing 2 accessory bones and 2 cases showing 3 accessory bones. In 47 cases in which x-rays of both feet were taken, there are 7 showing tarsal accessory bones of the same type on both sides and 8 showing a single tarsal accessory bone on 1 side only. The statement has been made that the accessory bones are most often bilateral. This observation does not hold in this series.

There have been no large series of x-rays reported to show the per cent of the accessory bones of the foot which may be expected to be present in the routine examination of x-rays. The series of 840 dissections of Pfitzner⁵ in 1896 shows 25 per cent of his cases with accessory bones. Geist⁹ in 1914 reports 30 per cent in a series of 100 normal feet. Kleinberg¹⁰ in 1917 reports a per cent of 18 in 350 x-rays of one or both feet. The author's percentage of 22.2 is about the average of these figures. All authors have reported the percentage for the accessory bones of the tarsus and have not included the accessory bones of the forefoot. Geist⁹ has divided the

analysis of his bones into 2 groups: 1. the important group which includes the os trigonum, the accessory scaphoid, the peroneum and the os vesalianum. 2. The unimportant group includes the secondary os calcis, the intermetatarsium, and the os intercuneiforme.

Peroneum—This bone was first described in 1555 by Vesalius. There is a great variation in its size. Sometimes an x-ray shadow will measure as much as 2 cm. in length. In the author's 124 observations of this bone, in 1 case there are 3 distinct pieces of bone at this point, in 5 cases there are 2 distinct portions of bone. Holland¹ has said that occasionally it is shown by 2 or more ossifying nuclei. On several occasions it is observed so close to the proximal end of the 5th metatarsal that it has been with difficulty distinguished from an os Vesalianum. Pfitzner⁵ has reported this bone to be present in from 8-9 per cent of his cases, Dwight⁶ in 10 per cent, Geist⁹ in 7 per cent. The author's per cent of 11.7 is slightly above these reports.

Os Trigonum or Accessory Astragalus—The projecting piece of bone in the posterior portion of the astragalus is spoken of as the trigonum. When there is a separate piece of bone at this point it is called an os trigonum. In the 61 cases here observed, there is 1 case in which there are 2 distinct pieces of bone at this point, constituting 1 os trigonum. In many cases the trigonum is projected unusually far posteriorly and gives the impression of a fused os trigonum. This is a very common occurrence. There are observed 197 cases of the so-called fused os trigonum or 18.7 per cent of the 1,054 cases. There are 3 cases which give the appearance of there being a fracture of the fused os trigonum. The anterior margin of the separate piece of bone is distinctly irregular and gives every appearance of a fractured surface. The so-called "Shepherd's Fracture" described by Francis T. Shepherd¹² in 1882, as a result of investigations in the dissecting room, is what we now recognize as an os trigonum. Meisenbach¹³ has said that a fracture of the os trigonum itself is not uncommon and reports 2 cases. The only similarity to this in the author's series is the 1 case in which it was thought that there were 2 separate pieces of bone at this point. Holland¹ says that many authors have described fractures of the trigo-

num but while admitting the possibility of this occurrence probably most of the cases so described have been in reality examples of a separate os trigonum, as an isolated fracture of this kind owing to the position and connection of the trigonum would appear to be almost impossible. Pfitzner⁵ and Dwight⁶ say that the os trigonum is present in from 7-8 per cent of the cases. Geist⁹ says 7 per cent. The author's 5.8 per cent is a little below these figures.

Accessory Scaphoid or Tibiale Externum—This bone may vary in size considerably from a very small osseous structure of about 5 mm. in diameter to a bone 19 mm. in diameter. It is believed to be more generally bilateral than unilateral. In this series there are 6 cases with x-rays of both feet showing this bone and of these 6 there are only 2 which show an accessory scaphoid on both sides. In the series no light can be thrown on whether this bone is or is not contained in the fibers of the tibialis posticus tendon. Zadek¹⁴ has stated rather definitely from the dissection of 3 feet at the operating table that it is contained within the fibers of this tendon. Dwight⁶ and Pfitzner⁵ emphatically state that it is never enclosed in this tendon. The author has found in 2 cases the accessory scaphoid to be made up of 2 separate ossicles. Pfitzner⁵ reports it to occur in 11-12 per cent of all cases, Dwight⁶ in 10 per cent, and Geist⁹ in 14 per cent. In the author's series there are 3.3 per cent of the 1,054 cases showing an accessory scaphoid. However, only 404 of these cases have an anterior-posterior x-ray of the foot, so that the per cent should be 8 instead of 3.3. Kleinberg¹⁰ has reported observing this bone in 12 cases or 3.5 per cent of 350 x-rays of 1 or both feet. He does not state distinctly whether the x-rays were taken in the anterior-posterior direction for the foot or the ankle. Monahan¹⁵ has said that this bone is present in 10 per cent of all painful feet coming under observation. He further states that the accessory scaphoid is roughly homologous with the prehallux found in lower animals. He says also that it is not a congenital structure in human feet, but appears often in association with some constitutional disease, notably syphilis and tuberculosis. It must be looked upon as an evidence of foot degeneration, a

CHART ONE
AN ANALYSIS OF THE TARSAI ACCESSORY BONES IN 1,054 PATIENTS

	No.	% of Total Acc. Bones	% of Total Patients
Peroneum	124	48.6	11.7
Os Trigonum	61	23.9	5.8
Accessory Scaphoid	35	13.6	8.0 **
Secondary Os Calcis	13	5.1	1.2
Os Vesalianum	6	2.3	.6
Extra Epiphysis 5th Metatarsal	5	1.9	.5
Astragalo-Scaphoid Ossicle (Pirie's Bone)	5	1.9	.5
Intermetatarsium	5	1.9	1.24**
Os Intercuneiforme	1	.4	.25**
Total	255		

**Note: This percentage is of the 404 cases which have an anterior-posterior x-ray of the foot. These bones cannot be clearly seen in the lateral x-rays and the anterior-posterior x-rays of the ankle.

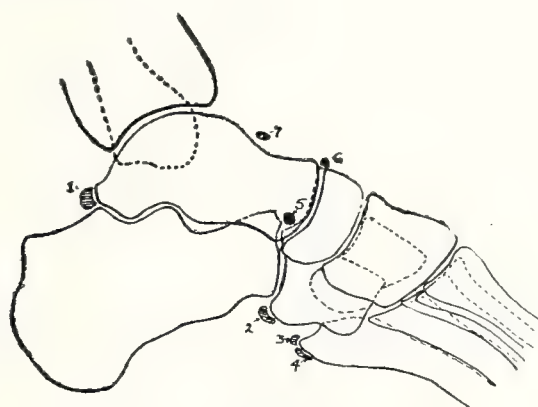


FIGURE 1
Lateral X-ray of the Tarsus Showing Seven
Accessory Bones

1. Os trigonum or accessory astragalus
2. Peroneum or sesamoid in the tendon of the peroneus longus
3. Os vesalianum tarsi or bone of Vesalius
4. Extra epiphysis of fifth metatarsal
5. Secondary os calcis
6. Astragalo-scaphoid ossicle or Pirie's bone
7. Secondary astragalus of Bierman

reversion to a lower form of foot structure. Fairbank¹⁶ has called attention to the fact that there may be a disease in this bone in the nature of osteochondritis.

Secondary Os Calcis—This is often confused with a secondary cuboid. The author has not found a single case of a secondary cuboid. It is possible that this mistake has been made. Pfitzner⁵ says that it is found in from 2-3 per cent of the cases, Geist⁹ in 2 per cent. The author's 15 cases, representing 1.2 per cent, is below these figures. Kleinberg¹⁰ has said that it is not found as a distinct bone. He has described 7 cases or 2 per cent

in which it is an unusually long projection of the os calcis. Krida¹⁷ on one occasion removed a secondary os calcis because of an ankle injury. He found it as a separate and distinct bone and shaped like a three-sided pyramid and about one-half inch in length, with articular cartilage on the sides adjacent to the astragalus and cuboid. This bone is frequently reported as a fracture of the anterior process of the os calcis.

Os Vesalianum Tarsi—and Extra Epiphysis of the Proximal End of the Fifth Metatarsal—A true os Vesalianum occurs in 6 cases or .6 per cent. The extra epiphysis is ob-

served in 5 cases or .5 per cent. Whether these two should be combined into one group is problematical. Holland¹ has described three types: 1. a true epiphyseal form which is seen only in childhood and which disappears as a separate entity about the age of puberty, when it becomes incorporated with the tuberosity; 2. that form in which a separate ossification occurs in adults, persists through life, and consists of a larger part of the whole tuberosity; 3. that form in which a very small ossicle persists throughout life adjacent to the tip of the tuberosity, the latter being quite well formed in itself. He feels that the term, "Bone of Vesalius," should be applicable to all three or it should be restricted to the last one. In one case of the author, the "Bone of Vesalius" is observed to be in two distinct parts. Kleinberg¹⁰ has observed this bone in four cases or 1 per cent of his series. Geist⁹ has one case in which it is questionably present.

Astragalo-Scaphoid Ossicle, or Pirie's Bone—This is observed in five cases or .5 per cent. It is found to be a very small ossicle lying usually above the head of the astragalus, and seen only in the lateral x-ray. It was first described in 1921 by Pirie,¹⁸ in which original report he cites 14 cases of the bone being present about the posterior and upper part of the scaphoid. In one case it was fused to the scaphoid and in another case to the astragalus. This is not to be confused, however, with the osteo-arthritis changes which sometimes appear about the trochlear process of the astragalus, or spurs which may appear in front of the upper articular surface of the astragalus.

Intermetatarsium—This is found in five cases. This is .5 per cent of all the x-rays and 1.24 per cent of the 404 x-rays of the foot. This latter per cent is the correct one. It is found as a separate bone in all of these instances between the proximal ends of the 1st and 2nd metatarsal bones. In one case, which is not reported in this series, it has been observed to be fused to the proximal end of the outer portion of the 1st metatarsal bone. In all cases it is observed as a fairly good-sized accessory bone. Dwight⁶ says that this bone is found in 10 per cent of the cases, and it may be fused or it may be separate.

Os Intercuneiforme—This is observed in

one case which is .25 per cent of the total foot x-rays. It was seen to be between the 1st and 2nd cuneiforms at about a middle point of the articular surfaces. The x-ray appearance in this case was quite definite. Dwight⁶ in his series observed it in from 1-2 per cent. He describes it as being a small wedge-shaped bone situated on the dorsum of the foot in front of the scaphoid and separating the proximal parts of the 1st and 2nd cuneiform bones.

The other bones described by Holland,¹ such as the os paracuneiforme, the os uncinatum, the os subtibiale of Fairbank,⁹ the os sustentaculum proprium, the ossicle adjacent to the peroneal process of the os calcis, the secondary cuboid, and the secondary astragalus of Bierman²⁰ have not been observed.

The Accessory Bones of the Forefoot—These are all true sesamoid bones contained within the fibers of a tendon. The x-rays of the 1,054 cases examined here were not all taken to show the forefoot. All the anterior-posterior x-rays of the foot do not show all the bones of the forefoot. The lateral x-rays of the foot and ankle more often show only parts of the metatarsal bones and do not show all of the bones of the foot. There are 59 patients, or 5.6 per cent of the total cases, showing these bones but this is not a true percentage and should not be used in the analysis. There are 69 separate bones observed. These are all exclusive of the sesamoid bones beneath the 1st metatarsophalangeal joint. There are six cases showing two extra bones and one case showing five extra bones. There are 27, or 39.1 per cent of this number observed on the medial side of the 5th metatarsophalangeal joint. One of these is separated into three distinct pieces of bone. Twenty-three, or 33.3 per cent, are seen beneath this same joint. There are seven, or 10.1 per cent, on the medial side of the 2nd metatarsophalangeal joint and three, or 4.3 per cent, beneath this joint. There is one observed beneath and one to the medial side of the 4th metatarsophalangeal joint. There are two cases in which there are bones to the medial side of the 3rd metatarsophalangeal joint. There is one case in which there are sesamoid bones to the medial side of the 2nd, 3rd, 4th, and 5th metatarsophalangeal joints, and also beneath the 4th joint. In

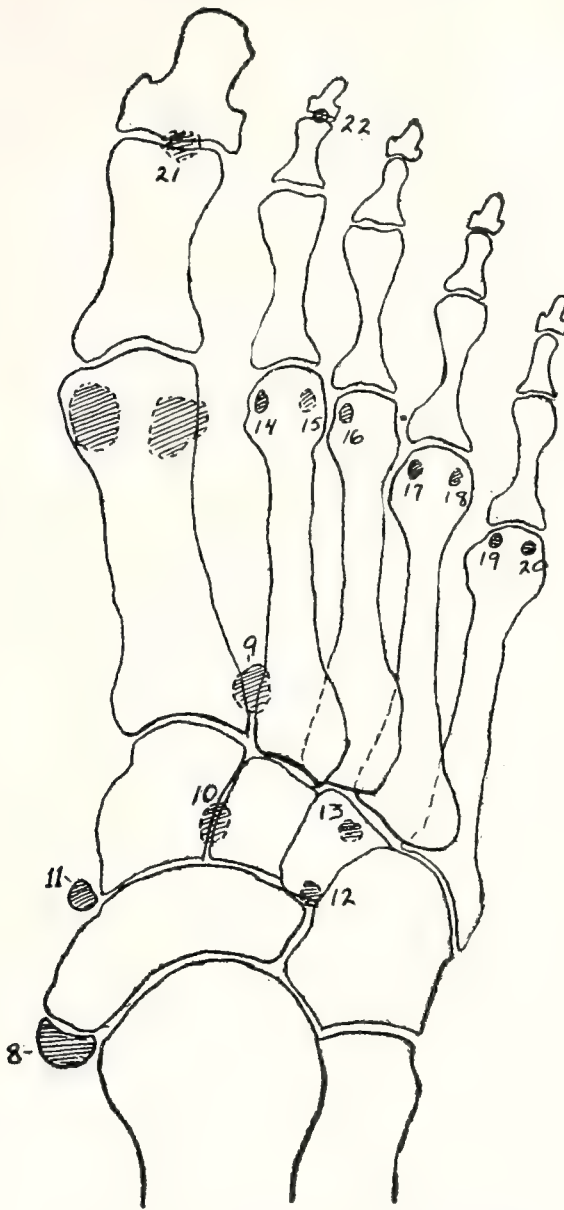


FIGURE 2

Anterior-Posterior X-ray of the Foot Showing
Six Accessory Bones in the Tarsus and Nine
Accessory Bones in the Forefoot

8. Accessory scaphoid or tibiale externum
9. Intermetatarseum
10. Os intercuneiforme
11. Os paracuneiforme
12. Secondary cuboid
13. Os uncinatum
- 14 and 15. Sesamoid bones beneath the second metatarso-phalangeal joint
16. Sesamoid bone beneath the medial side of the third metatarso-phalangeal joint
- 17 and 18. Sesamoid bones beneath the fourth metatarso-phalangeal joint
- 19 and 20. Sesamoid bones beneath the fifth metatarso-phalangeal joint
21. Interphalangeal sesamoid bone of the big toe
22. Interphalangeal sesamoid bone in the distal joint of the second toe

addition, the author has recently observed in several cases a sesamoid bone in the phalangeal joint of the big toe. There is no extra bone observed about the distal interphalangeal joint of the 2nd toe as described by Holland. The sesamoid bones which are here described as being beneath the metatarso-phalangeal joints are the ones which Holland has described as being on the fibular side of these joints. No mention is made in the article of Holland of bones beneath the 2nd and 4th metatarso-phalangeal joints or to the medial side of the 3rd metatarso-phalangeal joint, all of which are here observed.

Normally the sesamoid bones beneath the 1st metatarso-phalangeal joint are two in number and perfectly regular in contour. Holland¹ says that it has been noticed that the inner sesamoid may be divided into 2, 3, or 4 bony areas. This is very rarely so in the outer sesamoid but it has been observed. In this series there is noted one case in which there were three distinct sesamoid bones at this point which gave no appearance of there being any division of one. There are 31 cases observed in which one of the sesamoid bones is divided into two parts. It has not been noted whether it was the inner or outer one. In these cases the opposing surfaces of the divided bone are very irregular and appeared as if there had been a fracture. However, it is believed very doubtful that there were fractures present in all 31 cases because of the frequency with which these bones may be found normally divided. There may have been some fractures present, as all the 1,054 cases were x-rayed because of some violence or injury to the part.

The other irregularities of the feet have not been carefully noted. However, there are observed 12 cases in which there is spur formation at the attachment of the Achilles tendon.

CONCLUSIONS

1. An x-ray study of the accessory bones of the foot in 1,054 patients has been made.
2. There are 234, or 22.2 per cent, of this number showing one or more accessory bones in the tarsus.
3. There are 255 individual tarsal accessory bones observed. 48.6 per cent of this number are of the peroneum type, 23.9 per cent of the os trigonum type, and 13.6 per cent of the accessory scaphoid type.
4. There are 69 individual accessory sesamoid bones observed in the forefoot, exclusive of the sesamoids beneath the big toe. There are 72.4 per cent of this number associated with the flexor tendons of the 5th toe at the metatarso-phalangeal joint, and 14.4 per cent with the flexor tendons of the 2nd toe at the metatarso-phalangeal joint.

Bibliography

1. HOLLAND, C. THURSTON: The Accessory Bones of the Foot with Notes on a Few Other Conditions. *The Robert Jones Birthday Volume, Oxford Medical Publications*, 1928.
2. VESALIUS: The Works of Vesalius, edited by Boerhaave, 1725 Edition, p. 120.
3. BAULIN: Quoted from Holland.
4. ROSENMULLER: Quoted from Holland.
5. PFITZNER: Die Variation in Aufbau des Fuss-skelets, *Schwalbe's Morphologische Arbeiten*, Bd., vi., 1896.
6. DWIGHT, THOMAS: Variations of the Bones of the Hands, and Feet, A Clinical Atlas. *J. B. Lippincott Co.*, Philadelphia, 1907.
7. SHANDS, A. R., JR.: Fracture-Dislocations of the Ankle, An Analysis of a Series of 109 Cases. *International Journal of Medicine and Surgery*, May, 1929.
8. SHANDS, A. R., JR.: Fractures and Dislocations of the Tarsus, An Analysis of a Series of 109 Cases. To be published in the *Southern Medical Journal*.
9. GEIST, E. S.: Supernumerary Bones of the Foot, a Roentgen Study of the Feet of One Hundred Normal Individuals. *Am. J. Orth. Surg.*, 12:403, 1914-15.
10. KLEINBERG, SAMUEL: Supernumerary Bones of the Foot. *Ann. Surg.*, 65:499, 1917.
11. VESALIUS: The Works of Vesalius, edited by Boerhaave, 1725 Edition.
12. SHEPHERD, FRANCIS T.: On Some Anatomical Variations. *Ann. Anat. and Surg.*, Brooklyn, Vol. iv and vi, 1881 and 1882.
13. MEISENBACH, ROLAND: Fracture of the Os Trigonum: Report of Two Cases. *J. A. M. A.*, 89: 199, July 16, 1927.
14. ZADEK, I.: The Significance of the Accessory Tarsal Scaphoid. *Journ. of Bone and Joint Surg.*, 8:618, 1926.
15. MONAHAN, J. J.: The Human Pre-Hallux. *Am. J. Med. Sc.*, 160:708, 1920.
16. FAIRBANK, H. A. T.: Some Affections of the Epiphyses. *Proc. Roy. Soc. Med.*, Vol. 18, Orthopedic Section, p. 1, 1925.
17. KRIDA, A.: Secondary Os Calcis. *J. A. M. A.*, 80:753, March 17, 1923.
18. PIRIE, A. HOWARD: Extra Bones in the Wrist and Ankle Found by Roentgen Rays. *Am. J. Roent.*, 8:569, 1921.
19. FAIRBANK, H. A. T.: A Separate Center of Ossification for the Tip of the Internal Malleolus.

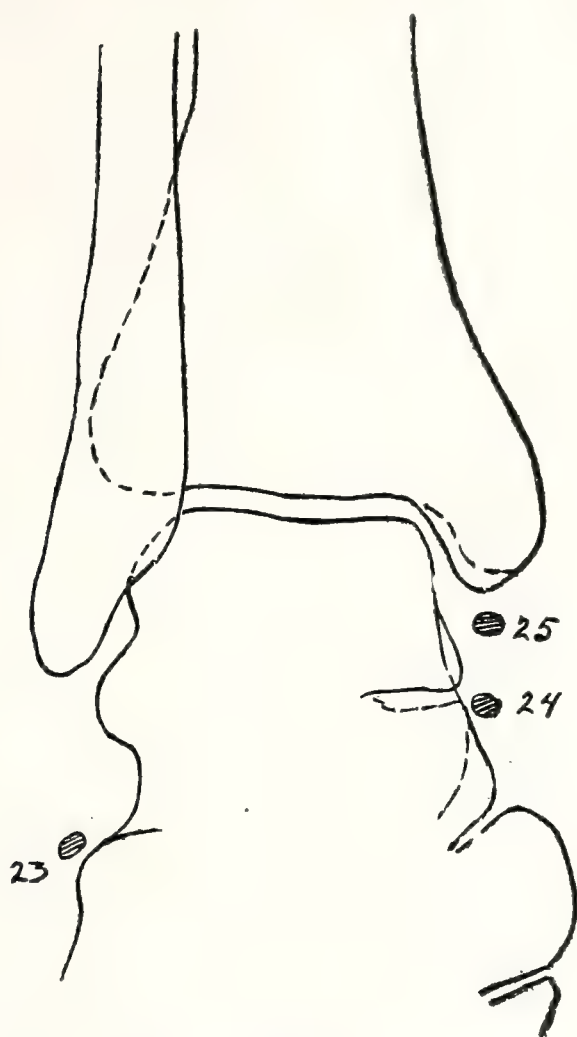


FIGURE 3
Anterior-Posterior X-ray of Ankle Joint Showing
Three Accessory Bones

- 23. Ossicle opposite the peroneal process of the
os calcis
- 24. Os sustentaculum proprium
- 25. Os subtibiale of Fairbank

Arch. Radiol. and Electroth., 27:238-41, Jan., 1923.

20. BIERMAN, M. I.: An Additional Supernumerary Ossicle of the Astragalus. *Am. J. Electroth. and Radiol.*, 39:359, Sept., 1921.

DISCUSSION

DR. J. W. WHITE, Greenville, S. C.:

I enjoyed Dr. Shands' paper very much. Looking at those one thousand-odd slides represents a tremendous amount of painstaking work.

I have been rather interested for a good many years in these accessory bones; I look through Dwight's book once in awhile, which Dr. Shands mentioned. I do not know the other reference he made. It shows the necessity of taking x-rays of

both feet; if you take an x-ray of one foot only you can misinterpret it very easily.

I think it is very rare (and I should like to have Dr. Shands when he closes say whether the impression is right or not) to have an accessory bone in one foot and not in the other. That helps us a great deal in saying whether a little bone back of the ankle is an accessory bone, or not. I should also like Dr. Shands to say in closing whether the removal of an accessory scaphoid is indicated when there is persistent pain in that region. Also, as regards the tubercle of the astragalus, whether possibly in later life that might not be broken off and form an os trigonum.

Dr. SHANDS, closing:

In answer to Dr. White's question, there were 47 cases in which x-rays had been taken of both feet. I found there were in that number less than a majority showing the same bone on both sides. That is not an observation which has been reported; it has been reported that these bones are more often bilateral than unilateral. I do not believe that 47 cases is enough to draw conclusions from.

Oftentimes an accessory scaphoid is removed, and I think should be removed, for a painful flat foot in which there is a pain about that point, and the patient can be assured of complete relief from the pain.

A fracture of the astragalus may take the form of an os trigonum, but you can usually tell the difference between a fracture of the long process, which is spoken of as the trigonum, and a true accessory bone at that point.

I thank Dr. White for his discussion.

THE BRINKLEY MATTER

(Editorial in *The Journal of the Kansas Medical Society*, February, 1931)

The complaint against Brinkley was filed April 29th, 1930. The attorneys for Brinkley applied to the Shawnee District Court for an injunction against the Board May 7th. Judge Whitcomb denied the injunction May 20th, 1930. Appeal was taken to the State Supreme Court June 6th and its decision sustaining the authority of the board to conduct the hearing was rendered June 13th. An appeal was taken to the United States Supreme Court on June 17th, and this court refused to take up the case.

The hearing by the board was begun on July 15th and continued until July 30th, when a recess was taken until September 15th.

On September 15th the members of the board visited the Brinkley Hospital at Milford and witnessed his operations.

The hearing was resumed on September 16th and on September 17th the Board voted to revoke the license of Dr. Brinkley.

Shortly after the order was issued revoking Brinkley's license the Attorney General applied for an injunction to restrain Dr. Brinkley and his staff from practicing. The attorneys for Brinkley filed an application for an injunction in the federal court on October 24th. Briefs in this case were filed on December 10th, 1930, and on January 28th, 1931, Judge Pollock decided that he had jurisdiction in the case and the injunction case would be heard by him.

To anyone who may still be in doubt as to the status of this case one might suggest a perusal of Dickens' *Bleak House*.

WHAT IS WRONG WITH THE SPECIALIST?

(*The Journal-Lancet*, April 1st, 1931)

Quoting from one of Sir William Osler's last addresses, *The Old Humanities and the New Science*:

"The extraordinary development of modern science may be her undoing. Specialism, now a necessity, has fragmented the specialties themselves in a way that makes the outlook hazardous. The workers lose all sense of proportion in a maze of minutiae. Everywhere men are in small coteries intensely absorbed in subjects of deep interest, but of very limited scope. Chemistry, a century ago an appanage of the Chair of Medicine or even of Divinity, has now a dozen departments, each with its laboratory and literature, sometimes with its own society. Applying themselves early to research, young men get into back waters far from the main stream. They quickly lose the sense of proportion, become hypercritical, and the smaller the field, the greater the tendency to megalomania."

THE LEGAL POSITION OF SURGEONS, ANESTHETISTS, HOSPITALS AND NURSES

(Riddel, W. R. (*Justice of Appeal of Ontario*), in *Anesthesia and Analgesia*, March-April, 1931)

In no English-speaking country, so far as I am aware, is a doctor obliged to attend anyone unless he pleases. But, while he is not obliged to give his services, if he does, whether for reward promised or expected, or knowing that he never will be paid and not wishing to be paid, his duty is the same as though the patient were a paying patient.

Hospitals can always protect themselves from liability by specifying precisely what they do and what they do not undertake. They may simply undertake to employ a nurse for the patient, the nurse to be the employee of the patient and not of the hospital in that case, they are bound to exercise reasonable care in selecting the nurse just as any other agent is bound to exercise reasonable care in selecting any other class of servant for one who trusts him to do so. Or the hospital may expressly stipulate for expressly stipulate for exemption from liability as a term of allowing the patient accommodation—the cardinal principle being always—"What did you undertake to supply the patient—your 'customer'—with?"

There can be no doubt that under our law as under the English law, the nurse within the four walls of the operating room is under the orders of the surgeon, the surgeon is the judge as to what she shall do and what she shall not do; she must do as he tells her, and if he tells her to do anything, and she does that very thing with reasonable care, he is responsible for her act.

Given a patient with a rash, the first thing you do is take blood for a Wassermann. If the report comes back positive, treat him for syphilis; if the report is negative, see the patient again and if the lesion is dry, put on something to wet it up, and if wet something to dry it up.—ABT of Chicago—quoted by BLUM in *Journal-Lancet*, March 1st.

Remarks On Appendicitis*

J. E. RAWLS, A.B., M.D., Suffolk, Va.

Senior Surgeon Lakeview Hospital

Life is an unsolved problem. Today we add, we subtract, we multiply and we divide in an effort to solve Life's problems. Tomorrow we erase more or less the figures of the yesterday and start out again to remark our course in quest of the ideal. Hence the significance of the wording of our subject—"Remarks on Appendicitis."

What we call truth today is but a camping ground on the great and ascending highway that leads to the endless mountain peaks of real intelligence and truth. We camp for a while, and we become disturbed and dissatisfied by the thoughts of others and by our own, and then we move up higher on this highway to find a new camping ground. After awhile the story repeats itself, and we continue to move periodically in search of a more perfect truth following Life's law.

These facts have a tendency to humiliate the dogmatic and egotistic thinkers. As we advance by age and experience we become more charitable towards the opinions and ideas of others. So in discussing the subject of appendicitis we have nothing especially new to advance and may seem academic, but we are camping in a sense on new ground in the quest of real truth that more may be saved from this dreadful and death-dealing disease.

The mortality in appendicitis has not been reduced—indeed it appears to be increasing—with time, regardless of our so-called advancement in medicine and surgery. It is appalling to realize that 17,433 died in the United States during the year 1928 (15.2 deaths per 100,000 population). Figures for 1929 are not yet available. Victims of this disease in the U. S. during the year 1925 were (15.1 deaths per 100,000 population) an increase of 1/10 per cent. Virginia's mortality from the year 1925 to 1929 inclusive advanced from 11 deaths to 11.8 deaths per 100,000 population—an increase of 8/10 per cent.

Is this increase in mortality due to a better diagnosis, or to more accurate statistical reports, or is the disease becoming more virulent, or is it due to a lack of public education and to our improper management? These are some of the questions which face us and which demand answers. We wish especially to consider informing the public on the subject and the management and treatment as means of reducing this death rate.

I have come to the conclusion that the main problem that we have to meet is peritonitis and not appendicitis.

Surgeons have spent years in devising various operative techniques for appendectomy and postoperative management of the case to reduce the mortality, and still the patients die. One surgeon would suggest one line of treatment, while another would advocate a different course with their minds centered on surgery and on the pathologic appendix, and still the mortality has increased.

Something must be wrong. Appendicitis has been the center of medical and surgical interest and emphasis, and not peritonitis. Let us remember that *peritonitis gives your mortality and not appendicitis.*

If this be so, let us place our thought and interest where it should be and proceed to meet the problem in the way of management and treatment. To treat any disease intelligently we must know the cause, the course and the termination. We must be familiar with the birth of the disease, the life habits of the disease, and the end or death of such a disease entity.

To approach the problem from the angle of peritonitis intelligently we must review briefly the anatomy and physiology of the peritoneum.

According to Burden and Deaver "the peritoneum is a serous membrane composed of an endothelial layer on a basement membrane. It is attached by connective tissue

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

which is freely supplied with lymphatics and blood-vessels to the organ which it wholly or partly envelops, and to the wall of the abdomen within which it is placed. The endothelial layer holds the same relation to the underlying subperitoneal tissue as the epidermis does to the underlying true skin. The size of the peritoneum, or its surface area, is equal to that of the skin covering the body, an average of 17,500 square inches. The two chief functions of the peritoneum as an organ of the body are absorption and exudation." Deaver further states that an understanding of the anatomy and physiology of the peritoneum, its powers of absorption and exudation, the paths of absorption, as well as what hinders and favors absorption, is essential to the correct treatment of peritoneal infection.

All remedies directed towards bringing about health can be classed under three headings: 1. mechanical, 2. chemical, and 3. psychical. Why is it reasonable to consider health-giving remedies under these three headings? Because all of the physiologic functions of the body are carried on through these three channels. These three are the great trinity of life and they must be considered in our treatment of all diseases and at all stages. For a physician to be his best he must be an anatomist, a physiologist and a psychologist.

Before going further we wish to pay our respects to physiologic rest as a remedy in diseases. What is physiologic rest? In a sense it explains itself. It is partially suspending the function or physiology of any part, or of the whole body. This is one of Nature's greatest remedies. The dog, when sick, ceases to eat, empties his stomach, and lies around.

Another of Nature's remedies in infectious diseases that we wish to speak of is the manufacture of antibodies or antitoxins in the diseased body to neutralize or destroy the poisons or toxins of any specific infectious disease.

Physiologic rest more or less suspends function of the diseased part of the body temporarily so as to give Nature time to build up antibodies or antitoxins to bring about resolution or cure. In any disease of the hu-

man body observe closely Nature's methods to bring about a cure and coöperate with her, so far as you can.

A knowledge of these two foregoing remedies is essential in the treatment of any infectious disease and especially in the treatment of active peritonitis of appendiceal origin, which disease we wish to discuss.

The two remedies that concern us as physicians chiefly in the treatment of a peritonitis of appendiceal origin are surgery, which should be a prophylactic means, and physiologic rest which is both prophylactic and curative.

The treatment of a peritonitis caused by a ruptured appendix should be considered under the usual headings, namely, prophylactic and curative. Prophylactic treatment would cover all the measures in the way of treatment before the appendix ruptured, and the curative treatment would be directed after rupture of the appendix and onset of peritonitis.

Thus, prophylaxis would cover the operation between the acute attacks for the removal of the appendix, and would also include the operation during the first 24 to 48 hours after the acute onset before the appendix ruptured. *The interval operation and the operation during the acute stage before rupture is practically without mortality.* So, I would urge surgery as a prophylactic measure in preventing a peritonitis as you would treat cancer in the precancerous stage.

The mortality of peritonitis caused by an acute appendicitis greatly rests in the hands of the public. Thus they should be instructed in a manner that they will suspect acute appendicitis within a few hours after onset and thus send for their family physician that they may be properly directed and in the meanwhile religiously refrain from cathartics and food—carrying out the principle of physiologic rest. Every school child should be able to recognize the usual symptoms of acute appendicitis soon after the onset, for in this way they would protect themselves and others with whom they come in contact from peritonitis.

A card such as the following should be in the hands of the public as a life-saver.

APPENDICITIS

How To Recognize It Early and Live

1. The One Chief Characteristic Symptom in a great majority of cases of Acute APPENDICITIS at the beginning is "Indigestion" causing pain all over the "Stomach" and in six to 18 hours after the onset this pain or soreness settles in the lower right side or portion of the "Stomach".

2. In learning this One Symptom or complaint each individual would not only save himself, but would save his friends and thus would prevent at least 15,000 from dying annually in the United States.

3. The public should know that APPENDICITIS is not a disease to be cured by the ice-bag or by Medical Treatment, but only by operative or surgical means.

4. The Public should know further that the greater number of those who die, die because the disease was not recognized early, took cathartics and food during the attack and waited too long after the disease started before sending for the family physician,—thinking it was "Indigestion".

5. Remember these three live-savers: (a) Diagnose or recognize the disease early. (b) Abstain from purgatives and food—they kill. (c) Send for family physician at once.

6. Practically all get well who follow this advice and are operated on within 24 to 36 hours after the disease begins.

7. These facts the public should know for self protection, so, get busy, recognize the disease early, refrain from purgation and food, and send for your family physician at once—and Live.

The active treatment of peritonitis caused by the appendix begins when the appendix ruptures. This usually takes place in 36 to 48 hours after the onset of the acute attack. During this period the operation of appendectomy to prevent a peritonitis is imperative to lessen the mortality.

After the appendiceal rupture and peritonitis has begun the proper course of treatment taxes the judgment of the surgeon to the extreme. Here is where your mortality lies and here is where we will have to spend our best judgment, thought and time in an effort to lessen our death rate.

I have about come to the Ochsner conclusion—that *surgery in acute active peritonitis of appendiceal origin, whether circumscribed, diffusing or diffused is strongly contraindicated*; and still I have not had the moral courage to carry this out in every detail, as my early teaching was antagonistic to this principle.

I was taught that the time to operate on appendicitis was as soon as the diagnosis was made. Under this course of procedure the mortality was about 4 per cent besides being followed many times by prolonged hospitalization, complications and semi-invalidism. And strange to say if a patient developed postoperative complications and sequelae such as prolonged drainage, fecal fistulae, adhe-

sions at times to the extent of intestinal obstruction, ventral hernias and prolonged hospitalization and finally recovered into an existence of semi-invalidism, the public thought it was miraculous and that we were great surgeons; while if they passed out, it was the Lord's will, when in reality these complications and sequelae were greatly due to poor judgment in removing or in attempting to remove the appendix during an acute active peritonitis.

For the past few years we have not followed this early teaching as rigidly as we did in former years and as a result we have reduced our death rate to around 3 per cent, and hospitalization and distressing complications have been proportionally reduced. This 3 per cent includes both operative and non-operative deaths. Still this is too high. We have come to realize that in this ruptured stage of the appendix with its accompanying pathology we are dealing with the problem of peritonitis in which surgery is contraindicated. We know that a peritonitis of the spreading or diffusing variety is more safely treated in the majority of cases by physiologic rest than by operation. We also believe that the same principle in treatment applies to the diffused peritoneal infection. Deaver states that "in diffused peritoneal infection with a silent belly—absence of peristalsis—where only the

pulsation of the aorta is heard, and that much more intense than normally, we have rarely seen good come from operation, while under strictly carried-out anatomic and physiologic rest we have seen the peritonitis subside and the case pass into an operable stage and operation safely done." He further states that in peritoneal infection where surgery can not aid in the removal of the focus from which the vicious organisms were let loose masterly inactivity is better than surgical activity.

In this connection we think of a factor which will continue to increase the mortality as long as surgical treatment is advocated in acute active peritonitis of appendiceal origin. Years ago operations were performed by comparatively few men and they were surgeons of years of experience, who by constantly performing a definite operation could bring their technique to practical perfection. Now the work has increased and the surgeons have increased more rapidly than the work, and as a result we have not the same opportunity in operating on as many cases of any definite pathology; further, the younger surgeons of less experience are more alert and ambitious than the older ones, and thus more cases fall into the younger surgeon's care.

In many of the circumscribed abscess cases of peritonitis absorption will take place under physiologic rest. As the temperature begins to drop and leucocyte count lessens, the abscess will gradually get smaller. This generally takes place around 10 to 12 days after the onset of the disease. This infection terminates like other infections by building up antibodies to overcome the toxins when resolution takes place. *To treat peritoneal infections with vaccines and antitoxins will be the ideal treatment of the future.* Nature in the abscess formation quarantines the infection by a wall of exudation to give the system time to manufacture antibodies to neutralize this specific infection, bringing about sterile pus and absorption. Localized abscesses which do not show a tendency to disappear in a day or so should be drained, and under local anesthesia if possible.

The anatomic and physiologic rest treatment is not an effort to cure or shorten the course of the infection but is aimed to tide the patient over by suspending physiologic activity until Nature cures or brings about

resolution, just on the same principles as other infectious diseases, such as pneumonia, are cured.

Treatment of Active Acute Peritonitis:

1st—Nature's treatment. This is physiologic rest and her results are marvelous as 75 per cent of appendiceal conditions operated on give a history of a previous attack of appendicitis and recovery. To understand Nature's principles of treatment better, we will again review the arrangement of the peritoneum. It covers wholly or partially the gastrointestinal tract, and also lines the abdominal wall. Since this is so, Nature in her attempt to treat or cure peritonitis, lessens the activity or function of the gastrointestinal tract by arresting peristalsis and by splinting, more or less, the portion of the parietal peritoneum lining the abdominal wall, and especially the diaphragmatic portion by superficial or high chest respiration. She further throws out or builds up a subperitoneal wall of inflammatory exudate which surrounds the peritoneum and is made up chiefly of leucocytes to hold in check or quarantine the infection until Nature manufactures her antibodies.

2nd—The doctor's treatment should follow the principle of Nature which is as we have seen physiologic rest. So to aid Nature in her effort to hold these functions passive until she builds up her resistance to the infection and thus bring about resolution or cure should be the physician's ideal.

Some of the high points to bring about physiologic rest are:

1st—No food or medicine by mouth to stimulate activity of the gastro-intestinal tract.

2nd—Stomach lavage when indicated to remove food products and poisons as the stomach becomes an excretory organ in peritonitis.

3rd—Colonic lavage to remove excretions and toxins.

4th—Systemic lavage by venous induction or by hypodermoclysis to dilute the toxins of the body and increase elimination through other avenues than the gastrointestinal tract and also to furnish liquids for the system to utilize during the ordeal.

5th—Morphine sufficient to relieve pain and to aid in partially arresting or splinting the gastrointestinal and respiratory functions.

6th—The head of bed elevated.

7th—Soothing applications to the abdomen such as the ice-cap or warm stupes with or without medication.

8th—Glucose solution intravenously or subcutaneously to help tide the patient over the ordeal until the crisis takes place; but let us remember that a *patient does not die in peritonitis from starvation, but from toxemia.*

It is on these remedies and others calculated to bring about physiologic rest in the treatment of acute peritonitis of appendiceal origin that we should spend our best judgment and thought and not on surgical means.

CONCLUSIONS

To reduce the mortality in peritonitis of appendiceal origin, in other words *to reduce appendiceal mortality:*

1. Instruct the public how to suspect the disease early, to abstain from purgation and food—they kill—and to send for their family physician at once—and live.

2. Remove the appendix as a prophylactic measure between the attacks or within the first 24 or 48 hours after the acute onset before rupture and the beginning of peritonitis.

3. Enforce rigid and persistent physiologic rest both as a prophylactic measure and during the active acute stage of peritonitis.

DISCUSSION

DR. ADDISON G. BRENNER, Charlotte:

Acute appendicitis is not easy to diagnose. It frequently comes on at night, and you are called on for a diagnosis when it is not easy to make one. Now, here are some cases to illustrate that fact. One case was in a little boy who the afternoon before had eaten radishes. He had some pain in his abdomen. He was seen the next morning, with the temperature normal, and had a white count of about 8,000. You could actually have walked on his abdomen. By rectum there was no induration or tenderness. He was seen that afternoon about five o'clock, when his temperature was 101 and his white count 12,000. There was still no tenderness in the abdomen, except a little tenderness on the right side. He was operated on a little later, and by that time the appendix was gangrenous. In children it has taxed me all I know to make a diagnosis.

Another case; a man supposedly has appendicitis. The abdomen is rather rigid but has not that board-like rigidity as in ulcer. You think he has appendicitis, but it is perforated ulcer.

We have a little child in the hospital now who had some abdominal colic, with a little pain on the right side. He went to school even up to the after-

noon of the day before he was brought in, and he was brought in with a large abscess.

A man is now in the hospital with a very bad heart. His abdomen was rigid enough for perforated duodenal ulcer. His temperature was 101, it is true; his white count was about 6,000. In spite of that we diagnosed it as an acute abdomen. There was nothing to show except one of those large, juicy appendices with a little fluid, and you might think you could get by without a drain. We put in a drain and in spite of that he shows a little fever and becomes puffy. Finally, after a long time, it drains a little, and he becomes better.

Now, as to typhoid fever or malaria. A woman was brought in with a little fever; she had had a chill. The white blood count was 15,000, and there was a little tenderness in the abdomen. We waited a little, and the next day she had another chill, with a little fever. It was found to be malaria. She was not operated on, by chance.

So long as we see these acute cases and wait for the doctor to bring them in at the proper time it is still a very difficult diagnosis.

DR. D. H. SMITH, Pauline, S. C.:

I should be in position to discuss a paper on appendicitis; I have been practicing 23 years and have not lost a case of appendicitis. I attribute that to promptness. There is only one word in appendicitis, and that is promptness, or promptitude.

I should like to ask Dr. Rawls about the rate of mortality in appendicitis.

Now, the symptoms of appendicitis, as they have occurred to me in the last 23 years, are pain in the abdomen, centered around the umbilicus, then nausea and fever. Those symptoms are very suggestive of appendicitis, although it is very difficult to diagnose a case of appendicitis in a child because there are so many symptoms that might be confusing.

The public can not be depended upon to diagnose appendicitis. A member of the family has what is popularly termed an "acute abdomen" (which I think is a misnomer), and they give him a purgative.

As for operating on peritonitis, I think it is a good thing to open the peritoneum and liberate the pus. I have in mind now a patient several years ago, a colored child, with a diagnosis of appendicitis. I had the abdomen opened, and we got about a quart of pus out of the abdomen, and the patient promptly got well.

I think the Lord has been with me in appendicitis, since I have not lost any. I may lose cases later, but so far I have not lost any cases of appendicitis.

Dr. Rawls: You operated on all cases?

Dr. Smith: Yes.

Dr. Rawls: Of appendicitis?

Dr. Smith: Yes, operated on all cases of appendicitis, and those cases that had progressed to the point of peritonitis have been opened. That liberates the pus.

DR. R. B. DAVIS, Greensboro:

Peritonitis kills, as I see it, by attacking the small intestine, for it is there that you get the stasis which poisons the patient. It is not in the colon; the colon will hold the toxins of the intestinal canal sometimes for a week or ten days, yet the patient is still up and going about his business and marvels at the fact that he does not have to spend the time going to stool. I remember one fellow who went three weeks and was still working. That being the case, if the surgeon wants to help the person with peritonitis, it seems to me he wants to work to help nature keep the small intestine quiet. Working on that theory, for the last few years I do not believe I have handled the small intestine in two cases of peritonitis following appendicitis. I make my incision just internal to the anterior superior spine. Following the longitudinal band, I locate the appendix, pull it into the wound, take it off, invaginate the stump, and leave the small intestine alone. I never put a drainage tube over into the small intestine, because nature has already prepared an exudate to take care of that infection, and when you move one irritated portion of the small intestine one-quarter of an inch it means you have doubled that adhesion. Therefore, if you would learn to stop prowling around in the abdomen when the patient has a ruptured appendix, I believe you would have the same happy experience I have had in the last eight years. When a man brings in a case of ruptured appendix, you do not say: "Doctor, you should have brought this case in day before yesterday; I can not operate now." If you do, the chances are you will not have that man bring you another case. So I operate when I get them, as we all do, and I stay away from the coils of the small intestine. As I said, I make the incision just internal to the anterior superior spine and follow the longitudinal band to the base of the appendix. I do not care where the point is but locate the base. Sometimes I have had them break off.

Another important point is to keep the patient on the right side. It looks wrong to me, always, to let the patient lie on his back; turn the patient on the right side and let the pus drain out.

I am sold on this incision. I have no trouble in locating the appendix; I do not bother the coils of the small intestine; and certainly, at least for me, it has helped me out of many a difficult situation that some fellow, some family doctor, has unthinkingly put me into. I wish I could get more people to make the incision just internal to the anterior superior spine and let the small intestine alone, because there is where you get adhesions and toxemias that do harm. You can do almost anything you want to the colon, for it is prepared to take care of infection. But the coils of the small intestine can not take care of it, and there you get the absorption.

DR. D. A. GARRISON, Gastonia:

I want to say just a word about appendicitis.

Only about eight days ago I had a case brought into the hospital by one of the best doctors in my community. He said he wanted me to go ahead and operate on the case at once, that he feared the appendix had ruptured. He was sure of the condition. We made a blood count, and it was 9,000. Everything pointed to the appendix, and we believed it was that. We went in there, and about three inches below the appendix, in the small intestine, was a perfect horseshoe bend, which obstructed the bowel. The appendix was sound.

Then another case. A doctor sent in a case there—one of the best doctors in the country a few years ago, old Dr. Pressley, of Clover, S. C. He said: "I have a case that I do not believe is appendicitis, but it is a surgical belly, and I want you to open it up." I went in there, and an inch and a half from the base of the appendix was an abscess.

Those things all come up. As to when to operate, I believe this, that the time to operate is when you get your patient. There is nothing to be gained by waiting, in my experience, and there is much to be lost.

DR. T. M. DAVIS, Charlotte:

I can not let this subject of appendicitis pass without making a plea for an organ that is one of the chief pitfalls in the making of a diagnosis of appendicitis, and that is the urological tract. During the last five years I have seen some seventy odd cases in which the appendix had been removed within from three days to six months before and in which a ureteral stone was found. You can draw your own conclusions as to whether the stone was the cause of that patient's symptoms, or appendicitis. The stone was removed after the removal of the appendix. The appendix can only be removed after the abdomen is opened and a visual examination made, after which the patient is incapacitated for two weeks or more. Urological examination is easily made, requires only a short time, after which the patient is incapacitated for only twenty-four to forty-eight hours. I think all cases of appendicitis should at least have an x-ray before subjecting that patient to operation.

The pain in appendicitis begins as a generalized abdominal pain or epigastric pain and gradually localizes to the right side. The pain in urological conditions never begins as a generalized abdominal pain but always begins on the side in which the ureter is involved. The tenderness in appendicitis is generalized, with gradual localization to the right side; in ureteral stone it is localized over the ureter. In appendicitis there is generalized abdominal rigidity, localizing to the right side. In ureteral stone the rigidity is not localized to the right side but is over the lumbar muscles. The temperature in appendicitis is usually elevated only slightly, a degree or two at first; it may be absent when you see the patient. The elevation of temperature in ureteral colic, if present, is usually one to two degrees and lasts several days if the obstruction is not relieved.

In appendicitis we have nausea and vomiting; the patient usually vomits once or twice. In ureteral colic there is persistent vomiting; the patient will vomit several times. In appendicitis vomiting increases the pain; in ureteral colic vomiting temporarily relieves the pain. Why? Because it is the damming back of urine in the ureter and kidney pelvis that causes the pain, and vomiting forces some of it by and temporarily relieves the pain. You will find that the patient frequently associates this relief with vomiting and sometimes induces vomiting.

DR. RAWLS, closing:

I appreciate thoroughly the free discussion that has been given to this subject. It seems to be a hackneyed subject, but when you realize that from fifty to sixty per cent of our laparotomies are on account of the appendix you will see why it creates such interest.

I have nothing to add. The only thing I am trying for is to reduce the general mortality. I have gotten statistics from several hospitals—the Peter Bent Brigham, University of Pennsylvania, and Deaver, and their mortalities runs around four per cent, or three and one-half. Dr. LaRoque, of Richmond, one of the best surgeons in the state, has a mortality of around two per cent. We have just been trying to reduce it. Mine has been too high, but I have gotten it down to three or below.

I want to get in touch with Dr. Smith here; he is the man I am looking for. The man who has operated on all types of cases of appendicitis for 23 years and never lost one is the man I am looking for. I have had them die three hours after entering the hospital, all bloated up, before we could operate. I had one die in the station. I want to get in touch with the doctor and find out something about his means, because that is what I am looking for.

Factors in the Prevention and Treatment of Postoperative Intestinal Obstruction*

A. E. BAKER, JR., Charleston, S. C.

Baker Sanatorium

This paper is based on a study of the postoperative behavior of the intestinal tract in 1013 consecutive abdominal operations done at the Baker Sanatorium, for a period ending December 31st, 1930.

This series of cases I have divided into three groups according to the severity of the postoperative symptoms. The first group, comprises 95 per cent of the total. These patients had a moderate postoperative rise in temperature and pulse rate; some abdominal distension, relieved by the enema or colon tube; nausea, some vomiting, and incision pain. After the fourth day the convalescence was uneventful.

The routine administration of fluids and chlorides in all operative cases, timely enemas, intravenous glucose when nausea persists, together with gastric lavage, especially if vomitus is of a green toxic nature, undoubtedly prevented further unfavorable symptoms. Would that every case could fall into this group.

In the second group I have placed those patients who went almost to the stage of complete ileus, with obstruction. These composed

4.5 per cent of the series. This group can be illustrated by recalling a case of acute appendicitis operated on a year ago. Right rectus incision, clean case, no drainage. For two days all was well. The third day the abdomen became unusually distended, there was some vomiting, elevation of pulse rate and generalized abdominal pain. Throughout this and part of the next day every effort was made with enemas, gastric lavage, and administration of chlorides and fluids, to relieve the condition. Enterostomy was contemplated, believing the condition to be a paralytic ileus. However, a small dose of pituitrin, followed by an ox-gall enema, brought results; the intestines regained their tonicity and with peristalsis soon established, further recovery was assured.

Cases of this type and those having even less symptoms and less abdominal distention, undoubtedly demonstrate to us, varying degrees of ileus.

Many cases of paralytic ileus are prevented or cured before being recognized in the earliest stages, by the routine administration of fluids, chlorides and glucose. These are the cases

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

in which we are so prone to delay the secondary operation. It takes courage on the part of the surgeon to subject his patient now in a more critical condition, to another operation; however, prompt action is essential as soon as a diagnosis of obstruction is made. This is one condition where delay is dangerous and there is no such thing as palliative treatment.

Any case of postoperative abdominal distention, not relieved by three or four enemas, and where gastric lavage is followed in a few hours by further vomiting, especially if the vomitus have a fecal odor, the abdomen should be reopened without delay. A diagnosis of obstruction can be made by the use of the flat x-ray plate, several hours before any clinical symptoms arise. The routine use of this method is of value.

Since Wagner in 1922 reported the first case of postoperative ileus cured by spinal anesthesia, much of this work has been done, and a hundred or more such cases can be found in the literature. Many patients with paralytic ileus and even mechanical ileus will pass gas per rectum 15 or 20 minutes after being given a spinal anesthetic and thus escape the operation for which they are prepared. We have found spinal anesthesia to be the anesthetic of choice in the secondary operations, in that there is so little shock; an important factor in these cases.

In our cases, none were so fortunate as to become relieved by the use of spinal anesthesia, without operation.

The third group, composed .5 per cent of the series. These unfortunate individuals went on to complete bowel obstruction, either by mechanical or paralytic ileus.

The few cases we have had are not many from which to draw conclusions; however, those of you who have gone through the ordeal and anxiety of handling such a condition, will agree that there is much to learn from any one of them. Several of this number were due to localized peritonitis, following operation for acute appendicitis. Others were due to the gut adhering to the incision, and others to just a paralytic ileus, for no apparent reason. Each of these cases was reoperated on. One case especially do I wish to mention.

A woman 33 years of age, mid-line incision, through which the pelvis was inspected, and the appendix removed. She did well for two days, then all

signs and symptoms of ileus set in. She was reoperated on while in a critical condition. A left-side enterostomy above the obstruction was done. She did well for a few days, then drainage ceased. A right-side enterostomy was done. She got along nicely for a while, then died very suddenly from a cardio-vascular accident. Besides chlorides subcutaneously, and glucose intravenously, she was getting glucose solution per rectum and apparently taking it up well. After death, there was expelled a gallon of the glucose solution, from the rectum. None of it had been absorbed.

Another case of this series was a young woman 20 years of age. Through a right rectus incision, her appendix and right ovary were removed. She developed an obstruction a few days after operation. Under spinal anesthesia, which did not relieve the obstruction, I made an enterostomy on the left side. Very frequently this procedure, which relieves the distended gut of its toxic products, will enable the gut to regain its tone and active peristalsis, and no further obstruction is had. This was not the case here. My enterostomy drainage ceased and the patient was again operated on, but this time an exploration was made and the gut found adhered to the primary incision. It was freed and another enterostomy done. This patient recovered.

These two cases demonstrate the importance of finding and relieving the obstruction, if it is a mechanical ileus before doing the enterostomy, rather than depending only on the enterostomy. Had the obstruction been found and relieved in the first case, she would probably have recovered also.

In studying these cases there are certain facts that should be emphasized pertaining to the prevention and treatment of this condition. Of foremost importance is a postoperative routine in all cases by which the patient is supplied with sufficient fluids and chlorides, best given as normal salt solution subcutaneously. When handling abdominal viscera, take the advice of Dr. John Deaver, and handle them "lovingly". Before closing the peritoneum, be certain that the intestines are in their proper place, and especially that the ileum is down into the pelvis where it belongs, as this is the portion of gut most frequently obstructed. Bring down the omentum over the intestines, and under the incision, and be certain that the raw edges of the incision are turned outward. By such care, many cases of ileus can be prevented.

The treatment is purely surgical. The changes in the blood, especially the deficiency in chlorides, give valuable indications for treatment. Chlorides in solution may be given

intravenously or subcutaneously. Besides replenishing the chlorides to the body, this treatment retards absorption from the toxic bowel contents, and stimulates active peristalsis.

Blood transfusions have proven quite an aid in keeping up the strength of these critically ill patients. Enterostomy is a life-saving operation; however, it does not always continue to drain, and therefore whenever possible, the site of a mechanical ileus should be found and freed, then the distended gut relieved by enterostomy.

Late enterostomy, after peritonitis is established, does not relieve the patient. The intestines are fixed; only 10 or 12 inches of the gut is emptied.

It is never certain that fluids given per rectum are absorbed. In very ill patients better results can be obtained by the subcutaneous and intravenous routes.

Gastric lavage is essential for nausea or vomiting, and should be repeated at frequent intervals whenever necessary. Morphine in large enough doses to assure rest sums up the essential points in treatment.

I have not endeavored to make a summary of all that is known of the prevention and treatment of postoperative ileus. This is only an effort to emphasize those factors that have impressed me most, as well as those that have been of most value in directing the care of a series of cases.

DISCUSSION

DR. R. B. DAVIS, Greensboro:

Dr. Baker has brought to us a subject which is very close to the heart of all conscientious surgeons. I think if any group of the profession make a mistake by doing too much, it is the surgeons. Most of us have found that the surgeon who prowls around in the abdomen is the man who has the most cases of ileus and distended abdomen. There are a few other causes, and there is one that I am going to mention with which I am quite certain a number of the men will not agree. That is ether anesthesia. I noticed a long time ago, in doing dog surgery, that the dog that had a full and complete dose of ether was knocked out worse than any other. The biceps muscles, the triceps muscles, and any other muscles you can feel are flaccid for hours and hours after complete ether anesthesia, and if those muscles you can feel are paralyzed, why not the muscle of the small intestine? And if the muscle of the intestine is paralyzed for hours, there must of necessity be an accumulation of toxic material. While ether has enjoyed a wonderful reputation, since the advent of anesthetics which are to me more satisfactory, I seldom use it.

Dr. Baker mentioned using the right rectus incision in a number of cases. It is the hardest matter in the world to make a right rectus incision and remove the appendix without manipulating the coils of the small intestine, and the more you manipulate them the more you damage them. Therefore, if we could reconcile ourselves to a small opening and stay away from the cells of the small intestine by making the Davis-McBurney incision in the cases where you are reasonably certain the disease is in the appendix, I believe there would be a very considerable number of ileuses prevented.

A surgeon who does not have an ileus is a man whom God favors, and He usually favors those who do not do much surgery. When it should come, what is it? It is nothing more nor less than a distended small intestine containing toxic material. And what does Nature do? Nature establishes peristalsis upward instead of down, and soon that patient's stomach is filled with toxic material that first began to accumulate down in the ileus. Then what does Nature do? Nausea and vomiting begin, and your patient is relieved a little, temporarily, after gastric lavage. But why should it be necessary for us to wait for the stomach to contain from one to two quarts of toxic material before we begin to relieve the condition? For a number of years I have had much respect for two ordinary plain rubber tubes. One tube I put into one end of the alimentary canal, and the other tube I put in the other end. If Nature says, "You can not go one way," I say, "Let's go the other way;" I don't stand still; that is what kills. So I start the Murphy drip, and if the patient is not inclined to keep the Murphy drip I just keep on washing. If I put in 40 quarts and get 30 quarts back, why there is still ten quarts in there. Then I use a Rehfuess tube. You may have some trouble getting it in, but if you tell the patient he is going west unless he swallows it, he will make a tremendous effort to swallow it. If we keep a tube in each end of the alimentary canal and keep fluid in that canal, preferably, of course, the rectum—it certainly does help.

I am glad Dr. Baker brought this subject to our attention again, because when a patient dies of intestinal obstruction after an operation the Lord or the devil may receive him, but the surgeon certainly gets the blame.

DR. S. W. DAVIS, Charlotte:

Recently I had charge of a case of paralytic ileus resulting from pneumonia, which was complicated by six-months pregnancy. The case presented not only atony of the musculature of the intestinal tract, but also physiological relaxation of the anterior abdominal wall. In an attempt to combat marked distention, I employed all means of which I had knowledge, except spinal anesthesia. Listing these measures briefly, they were: drainage by mouth by a Jutte tube; rectal tube inserted as high as possible, through which was passed a smaller tube for the introduction of fluids and the expulsion of gas

around the smaller tube; various changes of position; abdominal stupes; abdominal massage; the following drugs: strychnine, pituitrin, peristalsin and eserine. All these measures failed. In Eliason's summary of intestinal obstruction, four factors producing death were enumerated: starvation—combated by raising the blood chlorides and fluid level; peritonitis—by drainage and resection as indicated; toxemia from absorption of necrotic gut wall and, lastly, asphyxia. In the case that I present, we were dealing with the last factor, asphyxia. The pneumatic process involved both upper lobes of the lungs and the increased intraabdominal pressure restricted diaphragmatic movement, thus prohibiting pulmonary ventilation. Despite the employment of a Roth-Barach oxygen tent, by which oxygen was administered until a tension of 60 per cent plus was reached, the patient undoubtedly died of asphyxia. While this is not a case of postoperative intestinal obstruction, I request

that any means not used, which you gentlemen might suggest, be given. If there is an answer to this I will greatly appreciate it.

DR. BAKER, closing:

I thank both the Drs. Davis for their discussion.

Just one thing about the incision. The right rectus is preferred except in cases of definite acute appendix and except in children. Considering the number of cases in which we find, after removing the appendix, a gall-bladder filled with stones or some pelvic disease, I do think to slip your hand in and feel that gall-bladder and feel in the pelvis of a woman is absolutely essential. I attach great importance to that procedure, because I have been taught so and because I have seen it used by Crile, the Mayos and all those men who have had so many cases that they certainly ought to know by this time what incision is best in the average case.

Age and Weight in Diabetes Mellitus*

WILLIAM ALLAN, M.D., Charlotte, N. C.

Although brilliant advances have been made in the past 20 years in our understanding and treatment of diabetes mellitus, we are still confronted with a serious disease, the cause of which is unknown. In spite of our ignorance as to the primary cause of diabetes certain predisposing or secondary causes, such as race, age, obesity, cardiovascular disease, heredity, etc., are worth our consideration.

In a study of 242 case histories of diabetes from our records, we find that race is not a factor in North Carolina; this is because of the uniformity of our population, only three of our patients being Hebrews, and only five Negroes. Sex plays no part; there were 121 males and 113 females.

TABLE I

Age	Number	
1-10	7	
11-20	16	
21-30	14	
31-40	34	71-29%
41-50	45	
51-60	71	
61-70	42	
71-80	12	
81-90	1	171-71%

As will be seen from the table, 171 or 71 per cent of our patients were more than 40

years old as compared with Joslin's¹ figures for 5,086 cases in which the onset of diabetes was after the fourth decade in 66 per cent. However, Joslin does not seem to consider age as a factor in the production of diabetes since he quotes Mr. Mead of the Lincoln National Life Insurance Company as stating that the incidence of diabetes increases with age only in the fat, while in the thin it remains constant throughout life.

Age: According to the U. S. Census for 1920², about three-fourths of our population is less than 40 years old, but this three-fourths has supplied only 29 per cent of our cases and 34 per cent of Joslin's cases. In a tabulation of 6,000 consecutive case histories, I find that 60 per cent of the patients I see are under 40, so, making a 15 per cent correction to correspond with the age incidence of the population, the three-fourths of the general population under 40 would supply 44 per cent of our diabetic cases while the remaining one-fourth over 40 would supply 56 per cent, thus showing that diabetes after 40 in our experience is about four times as prevalent as before 40. However, when this factor of age is separated from obesity the result is entirely different. In our series there were 81 patients who were not obese, 47 under 40 years of age

*Presented to the Mecklenburg County Medical Society, March 3rd, 1931.

and 34 above 40 years of age. After a 15 per cent correction to correspond with the U. S. Census figures for the general population this would give a ratio of 59 cases or 73 per cent before the age of 40 to 22 cases or 27 per cent after 40, showing that the quarter of the population above 40 years supplies the same percentage of thin diabetics as the younger three-fourths of the population, thus bearing out Joslin's contention that age divorced from obesity is not a factor.

Obesity: Joslin has pointed out the infrequency of obesity in young diabetics. Of 71 patients under 40 years of age, the weights of 62 were recorded; nine of these averaged 21 lbs. underweight; in 33 the weight was normal and 20 or 32 per cent were obese, averaging 46 lbs. overweight; there were no fat diabetics in the first decade; two in the second; four in the third and 14 between the ages of 35 and 40, showing the rarity of obesity in diabetics under 35.

Joslin in a series of 2,000 cases³ had 1,205 patients above 40 years of age of whom 928 or 75 per cent were more than 10 per cent

overweight: 171 or 71 per cent of our cases were over 40 years of age and the maximum weight of 157 was recorded; of these 123 or 78 per cent were 20 lbs. or more, that is, more than 10 per cent overweight. The average excess fat for the group being 51 lbs. per person. There were five cases under weight and 29 cases in which the variation from normal was less than 10 per cent. Hence in every 100 diabetics whom we see, 71 are more than 40 years old and three-fourths of these, or 53 are also 20 lbs. or more overweight, (average 51 lbs.), so that apparently about one-half of our diabetes could be prevented by dietary restriction. As about 1 per cent of our population of 82,000 has or will have diabetes this would mean the prevention of over 400 cases of diabetes among the present inhabitants of Charlotte.

References

1. JOSLIN, E. P.: *Treatment of Diabetes Mellitus*, 4th Ed., 1928, p. 138, table 50. *Lea and Febiger*, Phila.
2. Quoted by MINOT, G. R., and ISAACS, R.: *Boston M. & S. J.*, 191:1, July 3, 1924.
3. JOSLIN: p. 157, tables 67 and 68.

Spontaneous Rupture of the Uterus*

DOUGLAS JENNINGS, M.D., Bennettsville, S. C.

Marlboro County General Hospital

My first case was that of a white multipara, aged 26, admitted June 26th, 1930, in complete shock and pulseless. The family history was negative and she had been married for six years to a healthy husband. During this time she had had three normal pregnancies, two of which terminated by natural labor with stillborn children and one by forceps delivery of a stillborn child. Nothing was known of the cause of these stillbirths. She had had no previous illnesses except a mild attack of malaria two months before. Three hours before admission to the hospital she had entered labor with her fourth pregnancy at term and after two hours had called her family physician. He reported the woman in good physical condition, well advanced in labor, with dilated and totally effaced cervix,

unruptured membranes, head engaged in L. O. A. position, and having weak and ineffectual pains. After some little time with her and noticing no progress she was given five minims of pituitrin. Labor pains were not increased, but after a few minutes the patient collapsed and complained of severe agonizing pain over the entire abdomen. The pulse became imperceptible, she became cold, clammy and pale and immediately the abdomen became silent and assumed the characteristic shape—two distinct protrusions with a well-marked division between them, the uterus on one side and the fetus on the other. Fetal movements ceased. The physician recognized the accident at once and transferred the patient to the hospital by ambulance.

On admission, the patient was very pale

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

and cold, the heart tones were feeble, radial pulse barely perceptible, and we were unable to determine the blood pressure reading. The abdomen presented the characteristic shape above mentioned, there were several large ecchymotic spots about the umbilicus and a distinct fluid wave in the upper abdomen. No fetal movements or heart tones were discerned and the entire abdomen was exceedingly tender. There was moderate vaginal bleeding.

The patient was hurriedly prepared for laparotomy and given spinal anesthesia (spino-caine). As soon as the anesthetic was injected into the spinal canal a general convulsion ensued. Normal salt solution in the vein was started and the abdomen opened. The abdomen was filled with amniotic fluid, blood, fetus and placenta. The nine-pounds baby was delivered with the placenta and membranes attached and the peritoneal cavity was cleared of all fluid and blood clots. The uterus was then delivered through the wound and a large Y-shaped tear was revealed, extending from the fundus down the anterior surface of the lower uterine segment to and including the bladder. This was repaired in layers after the manner of closing the uterus in cesarean section. The bladder wound was also repaired and the peritoneal bladder reflection, which had been dissected from the bladder by hemorrhage, was carefully replaced. The abdomen was then closed with two drains in the lower end of the incision. A litre of salt solution had been given and the operation was immediately followed by the transfusion of 600 c.c. of blood.

The patient did well for four days after which the abdomen became much distended, there was a constant escape of urine from the vagina, the lochia was dark grayish and very foul, and the temperature was elevated to 103. After four weeks of extreme sepsis, with daily fever excursions to 103, constant vaginal drainage of pus and urine, and finally the extrusion by urethra of a piece of sloughed tissue several inches in length, the vaginal escape of urine ceased. During this four-weeks period seven blood transfusions were given. The patient was discharged on the 39th day, postoperative, with hemoglobin reading of 70 and in fairly good condition except bladder incontinence. Several weeks later continence was regained and this patient has been able to attend her usual household

duties since October, the accident occurring the latter part of June.

Case two was that of a colored multipara, 32 years of age, a farm laborer by occupation, admitted December 8th, 1930, because of a large irregular mass in the upper abdomen associated with severe hemorrhage from the uterus. Three weeks before admission the referring physician was called to see this woman in her home. She was in poor condition, with rapid feeble pulse, and clammy, cold extremities and had labored with a presenting shoulder for several hours. She was thought to be suffering from exhaustion. She was given an anesthetic, the shoulder replaced and podalic version with extraction done. Postpartum hemorrhage was severe. The baby was stillborn. For several days the lochia remained excessive, then checked and she gradually improved for two weeks. The night before admission she again had a large uterine hemorrhage. It was at this time that the abdominal mass was first noticed and she was referred to the hospital.

Her past history was negative. She had had no illnesses, seven pregnancies and normal labors, no miscarriages, no menstrual disturbances, and no flowing spells until the last confinement.

On examination the temperature was 98, pulse 128, respiration 14, and blood pressure 98/72. She was markedly anemic, emaciated, and depleted. Further examination was negative except for the presence in the upper mid-abdomen of a large, nodular tumor mass, slightly tender, and apparently extending down into the right side of the pelvis. This mass did not seem to be continuous with the uterus and could not be palpated between the symphysis and umbilicus. On vaginal examination there was some bleeding and the uterus was felt to be enlarged, displaced to the right, but did not seem fixed to the abdominal mass. Urinalysis of the catheterized specimen showed albumin, pus and blood cells, and hyaline and pus casts. The hemoglobin was 25 per cent, red cells 2,225,000, leucocytes 19,000, polymorphonuclears 82 per cent.

X-ray examination after a barium meal showed the stomach displaced up against the diaphragm in the left side and the greater curvature of the stomach deformed by pressure from below. There was a large irregu-

larly round shadow in the midportion of the abdomen. Second film, after four hours, showed the barium completely out of the stomach and occupying the location of the rounded area mentioned above. After six hours the barium had reached the terminal ileum which formed a part of the mass. In the fourth film (24 hrs.) the cecum and ascending colon were distended, there was a deformity at the hepatic flexure, the transverse colon was not well filled and showed a constriction. The splenic flexure was fairly well filled down to the descending colon where there was a portion of gut about three inches in length containing no barium. The sigmoid and rectum contained a moderate amount of barium. X-ray diagnosis was "partial obstruction from agglutination of coils of intestine, chiefly the ileum, transverse colon, and a portion of the sigmoid."

Five consultants saw this patient, one of whom rendered the opinion that the mass was composed of intestinal coils matted together by nature in an effort to wall off infective matter extruded into the peritoneal cavity through a rent in the uterus.

After this patient had been in the hospital under study for several days she began to show a septic type of fever and fluctuation was noticed in the abdominal mass. This was drained and when the septic fever continued the abdomen was opened under spinal anesthesia. A large mass the size of an orange and containing fluid was shelled out of the left iliac region. This proved to be a purulent degenerated ovary. The uterus was firmly adherent to the coils of the ileum well above the umbilicus and to the anterior abdominal wall and was displaced to the right. On the upper anterior surface of the uterus was a small tear perhaps $1\frac{1}{2}$ inches in length and a loop of ileum was firmly adherent to this. The uterus was long and narrow from its efforts to undergo involution while adherent in the upper abdomen. No effort was made to do anything further than to freely drain the abdomen. After five weeks in the hospital this patient is still confined to bed with free drainage.

Report of two cases of spontaneous rupture of the uterus during labor is here made because of the unusuality of these cases, DeLee giving the incidence as 1 in 2,000 cases and Shears 1 in 3,500. Further justification

for the report is felt in the fact that both cases terminated in recovery though in an entirely different manner.

Rupture of the uterus is traumatic or spontaneous as regards the method of production and complete or incomplete as regards the extent. Both cases here reported were spontaneous and occurred during labor, and both were complete, the peritoneal coat of the uterus being torn. Ruptures occurring during labor are usually the result of pressure and overdistension and therefore involve, for the most part, the lower uterine segment. In one of my cases the rent extended from well up on the fundus down to the bladder, even involving this organ. In the other case the rent was small and confined to the fundus uteri.

The principal causes of ruptured uterus, generally speaking, are delayed or obstructed labor and unskilled attempts at delivery. Among the predisposing causes are those conditions which produce weakening of the uterine wall, as operative scars, scars of previous rupture, fatty or hyaline degeneration of the muscle, pressure necrosis during prolonged labor, scars of previous septic processes, thin spots from the removal of previously adherent placenta, fibroids and other new growths, overdistension as in pendulous abdomen, pregnancy in a horn, placenta praevia, polyhydramnios, etc. The second group of predisposing causes comprises the mechanical factors which impede the progress of labor as contracted pelvis, overgrown fetus, hydrocephalus and other deformities of the child, malpresentations, rigid perineum, etc. In one case reported here the cause was undoubtedly shoulder presentation; in the other case it is significant that the mother had previously gone through three labors to deliver dead babies and probably had suffered from septic infections subsequent to the dead babies. Since I am dealing with spontaneous ruptures only I am not here concerned with the several causes attending traumatic rupture of the uterus.

One of my cases showed the classical symptoms and signs of massive rupture of the uterus and the condition was promptly recognized by the referring physician. The other case was not recognized as it evidently occurred before the physician was called, but was referred to me three weeks after delivery

because of uterine hemorrhage associated with a large, irregular, nodular mass in the upper mid-abdomen. It was at laparotomy that the rent in the fundus uteri was found and the irregular nodular mass was seen to be a localized abscess from Nature's effort to wall off the uterine contents and infected matter expelled into the peritoneal cavity from the womb. Hirst reports a similar case.

The prognosis of rupture of the uterus is grave in all cases, particularly so in complete ruptures. Of DeLee's eleven cases eight died of shock or sepsis. The mortalities are generally given as from 25 to 78 per cent. Practically all of the babies are lost. Klein gives the mortality rate as 87 per cent when the bladder is involved in the tear. Both cases here reported terminated in recovery and in one case the urinary bladder showed extensive involvement.

Prophylactic treatment is of paramount importance. "It is far easier to prevent rupture of the uterus than to remedy its consequences" (Shears). With the exception of those cases in which the uterine wall is weakened by previous scars, etc., rupture of the uterus should not occur, certainly not in cases which have been under observation from the beginning of labor. The attendant on delayed labor should watch for the premonitory signs—restlessness, anxiousness, lack of progress in spite of hard pains, soreness and almost continual pain, flushed face, dry mouth and tongue, fever, panting respiration, and rapid pulse. It is a mistake to assume that because a condition is rare it will not be met with in general practice. Such accidents are more likely to occur in neglected cases in far-away places than in hospitals. Malpresentations should be corrected before it is too late. Patients with known scars of previous troubles should not be allowed to linger in labor. Deformities of the baby should be recognized early in labor. It is here that the external examination is invaluable. It is not necessary to remind you that, in the presence of symptoms of threatened rupture of the uterus, delivery should be accomplished as soon as practicable.

As for the treatment of the case after rupture has occurred, if the fetus has escaped into the abdominal cavity, if the head is above the pelvic brim, if the pelvis is contracted, or if the cervix is hard and undilatable the baby

should be promptly removed by laparotomy. However, if the child can be easily extracted through the vagina, if the bleeding is only moderate, and the patient in fairly good condition, there are two courses advocated. One is to remove the child and lightly tampon the uterus and vagina, apply an ice bag to the abdomen, give morphine and ergot, and keep the patient perfectly quiet. The other is to immediately do laparotomy, remove the child and membranes, repair the rent in the uterus if an uninfected case and do hysterectomy if the case is infected or likely to become so.

NOTE.—4/14/31.

Case 1.—Patient remains well and attending her usual duties.

Case 2.—Patient died of sepsis incident to peritonitis 3 weeks after above report.

DISCUSSION

DR. OREN MOORE, Charlotte:

There is almost nothing left to say in the discussion of the paper, because the discussion of ruptured uteri is naturally very limited in its scope, and Dr. Jennings has said almost everything that can be said. He has had two women with ruptured uteri and saved both of them. No one else that I know of has saved 100 per cent of such patients. That is a very good reason for presenting the paper.

I have seen only five ruptured uteri in my life, and only one was spontaneous. This was in a woman who lived a few miles from town who had some pains and had sent for her family physician. She was quite composed; she was crocheting. In a few minutes she complained of a sharp, tearing pain in her abdomen. Her husband, who was present, confided to me later that he distinctly heard a tearing sound in his wife's abdomen. The physician failed to recognize the condition and put her to bed and kept her there for several days. When she did not get better she was put into a wagon and taken 20 miles to a hospital, where she was operated upon. The fetus and placenta were in the abdomen. I am sorry to say she died. This case was reported by me at the Wilmington meeting of this association in 1913.

In one case 2 c.c. of pituitrin was given, and the uterus ruptured. The woman was making very little progress, and the doctor gave 1 c.c. of pituitrin. She made no progress, and several hours later he gave another c.c. It occurred to him that she lay very quietly in the bed; however, she seemed to be in little pain, and it occurred to him that she was going to rest awhile and maybe he had better rest, too. So he went to bed and slept until 7 o'clock in the morning. Then he found her pulse had climbed to 140, and he called me. We took her to the hos-

pital and operated on her. There was a 9-pounds baby in the abdominal cavity. We did a drainage there through the cul de sac, and that patient made a complete recovery.

The three others that I have seen were due to traumatic causes, either to manipulation with forceps or other attempts at version; they were all true traumatic cases. The literature is full of traumatic ruptures. No man who has attended many obstetrical cases has failed to see them.

There is a reasonably high percentage of ruptures in subsequent pregnancies in uteri that have been sectioned; some give as high as 10 per cent. I have never seen a rupture in subsequent deliveries by the normal route in women that have been sectioned before. Perhaps that may be due to the fact that we have used a great deal of caution in getting these women through to the point where operative delivery might be undertaken if necessary.

It is fortunate that spontaneous rupture is rare, because it is one of the most dangerous accidents of

pregnancy. When the contractions become feeble, when the pulse becomes feeble, and there is dryness of the patient's mouth and tongue, when the patient complains of violent, continuous, almost unbearable pain in the uterus and lower abdominal region, and where on abdominal examination the baby seems to be almost under one's finger, with very little tissue interposing, then rupture is imminent and some attempt should be made to deliver the patient. What that attempt is depends upon the ability of the operator and the condition of the patient. It may be rapid forceps delivery; it may be version; but, whatever the procedure, it should be undertaken with a considerable amount of caution.

Ruptured uteri are common from traumatic causes in many of our clinics. In many of our large clinics the use of pituitrin is absolutely forbidden; in some, if a man uses pituitrin he automatically is dropped from the service. Of course, pituitrin has its place, but its use is so dangerous that such a rule is justified.

Some of the Causes of Mental Diseases*

WM. RAY GRIFFIN, M.D., Asheville, N. C.
Appalachian Hall

I shall not attempt to discuss fully the causes of mental diseases in this paper as time is too short and too, too little is known of some of the causes of mental diseases to warrant an attempt at a discussion of them.

The causes of mental diseases are of extreme interest now, because of the marked increase in the number of patients of this type throughout the country. It has been reliably stated that of the 7,000 infants born each day in the United States about 270—one in 26—becomes incapacitated by abnormalities of the mind. It is also a fact that more beds are occupied by mental patients in the United States than by all the physically sick combined, and this refers only to State hospitals and Federal institutions and does not include the great army of the mentally unfit which comes to the attention of the specialist in the state of incipency, when it is often possible to accomplish something constructive and avert the calamity of chronicity. Many of the individuals who are threatened with the spectre of insanity, but who are still strug-

gling to live in the world of reality, are to be found in the consulting room of the busy general practitioner, and too, there are those in the hands of the psychiatrist who should have been in the hands of the practitioner before reaching the psychiatrist, because of physical ills which may be responsible for the mental disturbances and which should have been corrected.

Since the beginning of the history of medicine both physical and mental ills have been attributed to a vast multitude of things. Stoddard states that it has happened that almost every circumstance under the sun has been labelled the cause of insanity; a man's religion, his education, his profession and nationality have all been blamed. There have been many different ideas down through the ages as to the causes of ills of all kinds whether they be physical or mental. The sick have been accused of being possessed of demons of all kinds through all the ages.

For many centuries it was the custom either to put these unfortunates in jail, keep

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

them confined at home, or allow them to roam at large. Mild cases or harmless patients were neglected, turned vagabond, or roamed around on the fringe of communities; others became wizards and warlocks. Violent ones were put in prison to be caged, chained or manacled and dealt with as criminals. They were generally exposed to violence, ridicule and abuse, treated as animals in a menagerie, and on Sundays or holidays exhibited by the keepers for a fee to the gazing populace. It was left for Pinel to strike off the chains and do away with these abuses to which these unfortunate people had been subjected.

In progress psychiatry has been painfully slow, retarded alike by religion and philosophy, but mainly by the primitiveness of man's emotions and the rigidity of human thought. But now it has come to be one of the branches of medicine which is recognized as one of the subdivisions of the great branch of biology, free to make use of scientific methods, in duty bound to diffuse the knowledge that it gains, and privileged to contribute abundantly to the lessening of human sufferings and the enhancement of human joys.

From all the research work done by the leading men of every age it is concluded now that there is little difference between the underlying mental process of the psychotic and the neurotic and between both of these and the normal.

The causes of mental diseases now are classified as functional and organic. Of definite functional causes we are not so sure because it has to be admitted that few scientific data are before us to establish on any firm basis our knowledge of the inheritance of mental instability.

Though there is no doubt as to the enormous importance of this factor, it is certain that in the past the use of this influence has often been a cloak for ignorance and that the effects of early environment and faulty education of the instincts and emotions have not been adequately evaluated. Most of the statistical work on the subject is of little worth. Human families do not easily lend themselves to genetic study and much is founded on hearsay. Fallacies have arisen because no differentiation has been made between the different varieties of insanity; results have been taken as absolute and not

compared with similar investigations into the family history of normal people.

The brain, like other organs of the body, can stand only so much and grows weary and stops functioning normally, as does any organ of our body when subjected to abuse.

It is an undisputed fact that we do inherit the physical qualities of our ancestors. It very often requires only a glance to know that a man is the father of his own boy. The eyes, the nose, the mouth, the hair, or the whole physiognomy, may appear almost a reproduction of his father. The physical stature, the walk, the speech, the mannerisms, may all be so nearly like those of the father that anyone recognizes the offspring as being the son of his father. In fact, this is so often true that even the illegitimate child has been recognized as the son of its father because of the marked likeness.

Breeders, whether they be interested in beast or fowl, are constantly bringing into their herds or flocks new blood to build up a higher standard in size, form, or color, or to instill into them other characteristics that are desirable, even to change the temperament of the animals or birds. The horticulturist uses the same methods in his work whether he is growing flowers, vegetables, grains, cotton or what not.

We are not regarding here the breeders of cattle and vegetables as being competent judges of human breeders but the principle involved is conclusive proof that we undoubtedly inherit some of the mental characteristics as well as acquire them. There are those who feel that we do not inherit so much in temperament and mental characteristics but think these marked similarities in temperament and other characteristics are due to environment and the constant association of father and son. Environment does play its part. A country preacher, who with his wife, was going to his church on Sunday morning, said, "Mary, I shall whine in my sermon today." Mary asked why, and he replied, "Because I have been holding a revival meeting with Joe B——— this past week and Joe whines." We make every effort to keep our children in the very best environment where they will not acquire bad habits from bad association and we, ourselves, keep our best foot forward when in their presence in order

that they may not see or hear anything from us that would in any way mar their future by laxness of upright living from observation of us.

Then to my mind it is perfectly obvious that both heredity and environment play a great part in the molding of our lives, and this being true they must play a great part in mental disturbances of the patients with whom we come in contact.

There are those who have inherited minds which are quick to grasp knowledge but more or less imprevisible to the upsetting things of life. There are minds equally strong in every way as the other but so delicate and sensitive that they become easily excited, live on tension, worry greatly, sleep poorly and as a result the mental faculties are disturbed and become disorganized.

According to experience, civilization, so-called, is one of the most important breeding places of mental diseases. The "higher" the scale of civilization the more insane are noted. Of course, this is in part misleading because the care of the helpless that civilization demands simply does not permit them to perish as they do under natural conditions. Nevertheless, there is no doubt that our kind of civilization does favor the disease-causing agencies, such as alcohol and lues, and these two are credited with causing 13 per cent of all mental diseases.

In America it was discovered that the Negroes, who as slaves had no percentage of insanity worth mentioning, became insane in greater numbers the more they approached the manner of living of the whites, and that in the northern states where they are quite acclimated they also attain the same morbidity.

Sexual conditions undoubtedly play a great part in the production of mental diseases. The college boy who has some venereal disease develops a morbid depression. Diseases of the female genitals are frequently blamed for mental disturbances but this is without valid proof. Onanism is oftentimes given as the cause of mental disturbances but is more frequently the result.

It is furthermore to be kept in mind that while individual causes frequently produce definite morbid pictures—*e.g.*, traumatic neurosis, alcoholism, paresis—nevertheless, de-

pending on the disposition and the constellation of other contributing conditions, the identical (major) causes may generate and occasion different morbid pictures, such as different traumatic neuroses, hysteria and neurasthenia in certain conflicts, and various alcoholic forms. The same psychic influence may release a schizophrenic attack in one person, a neurosis in another, a manic attack in a third.

Various attempts have been made to correlate the manifestations of the neuroses with disturbances in the functions of the glands of internal secretion and to explain character and temperament in terms of the physiology of the endocrines. This view is based on the hormonal and neural relationship which exists between the nervous system and the ductless glands, an intimacy of relationship which is attested anatomically, physiologically, pharmacologically and clinically. But in the present state of our knowledge it is impossible to state exactly what that relationship is and in how far it is reciprocal. Observation warrants the statement that psychic stimuli may activate the glands of internal secretion and that both normal and perverted function of the endocrines is capable of inducing psychic changes. There are many other conditions which may be termed exciting or direct causes of mental diseases. Among these are endogenous toxic poisons and exogenous toxic poisons, such as alcohol, morphine, cocaine, etc.

Much more important are those toxins due to bacteria infections, syphilis being one of the most important, constituting five to 15 per cent of the total admissions to our hospitals. Almost any infection may produce insanity in a predisposed individual and in late years some investigators have laid great stress on foci of infection in the body as causative of different insane states. Endogenous factors are said to frequently play a part in the causation of mental diseases, yet they probably are of no specific value.

Injuries to the head frequently may cause structural lesions to the brain and be the immediate cause of insanity, while more indirect injury, such as concussion from falls, also may be the starting point of a mental disorder.

Bodily diseases may play a part in the pro-

duction of insanity through the interference they bring about in nutrition, circulation and fatigue. Exhaustion or overwork has been commonly supposed to be a cause, and during the World War a certain type of insanity developed by soldiers on active service was officially designated Exhaustion Psychosis. Though prolonged mental or physical strain often seems to be the precursor of a severe mental breakdown, it is probable that exhaustion *per se* without other and more important adjuvant factors will seldom originate an insane state. The excessive fatigue is frequently a symptom, and if in any way contributory, it must be regarded as one link in a series.

Any severe mental stress may excite insanity when the predisposition exists. Commonly, the mental factor involves some situation which the individual cannot face, and it may be said that in this difficulty he takes refuge in a world of unreality. Domestic trouble, financial worries, deaths of those who are near and dear, sexual problems, shocks, etc., are the usual provoking factors.

This psychogenic aspect of insanity has been much studied of late years, and holds a wide field today which strenuously opposes the views of the materialistic school.

I have mentioned and discussed briefly some of the more important causes of mental diseases and many have not been mentioned; however, we hope and feel that we are now beginning to see light in the study of causes of mental diseases and that before the passing of many years that we will have solved more of the mysteries surrounding these most unfortunate, that definite causes will have been ascertained to the great advances of prevention and cure.

This will require not only the efforts of the psychiatrist, but the skill and coöperation of the whole medical profession which has always contributed so generously and self-sacrificingly to the welfare of humanity.

DISCUSSION

DR. F. C. RINKER, Norfolk:

It gives me a great deal of pleasure to discuss a paper written and so well presented by one of my friends who was in the Polyclinic Hospital with me in Philadelphia, and I rise for that purpose and also to say, as a clinician, it is my feeling that the psychiatrists are going ahead with their work overlooking the possibility of chronic or subacute infectious processes—so-called foci of infection—as a

possible cause of some psychiatric disturbance. It seems to me that many of these cases, if studied from the standpoint of focalized infections, might be relieved by relieving those infections, more quickly than by attempting merely to do something from the standpoint of their own psychiatric outlook and from the standpoint of work in the workshop and things of that type that are done. I am not a psychiatrist, but I do believe that infection plays a great part in these cases, and I should like to have Dr. Griffin in closing say something regarding that.

DR. GRIFFIN, closing:

I shall never forget when I first began the study of psychiatry in a State hospital about 15 or 18 years ago. One morning we were in the office, and in came one of these high-pressure Y. M. C. A. men. (I mean no reflection on the Y. M. C. A. or its workers, for I have the highest respect for all of them.) He asked for the superintendent, and the superintendent came in. He said: "Doctor, isn't it true that a large majority of the patients in this institution are here as a result of their dissipation?" Dr. McCampbell studied a moment and said: "I do not know that I can place my hand on a single individual in this institution who is here because of his dissipation. On the other hand, there are a large number of individuals in this institution who are here with religion assigned as a cause." He did not say they were there because of their religion, but as a matter of fact that cause is given on a large number of commitment papers. That is the case many times where the patient is a psychopath to begin with. Now, why is he psychopathic? That thing goes back to his heredity and environment; it may be either or may be both. We can not tell. As I said awhile ago, it is very difficult to study these cases and to get accurate histories, because they lend themselves very poorly to study; they do not want to admit there is any such thing as a diseased mind in the family, because they think it is disgraceful; and the public in general consider it so.

About Dr. Rinker's suggestion as to infection, I think the infections play a great part in the production of these psychoses and neuroses; there is no question about it. In a large number of cases they are the causative factor, but most of them have the predisposition to begin with.

I thank Dr. Rinker for his remarks and thank you gentlemen.

Write to U. S. Government Printing Office, Washington (enclosing 5c) and get Reprint No. 1424, "The Essentials of Smallpox Vaccination." Then vaccinate every patient of yours who has not been vaccinated in the past seven years. Vaccinate every baby you deliver before it is 10 days old. Protect all your patients from all diseases against which you have safe methods.

Diseases of Meckel's Diverticulum*

Case Reports

J. R. YOUNG, M.D., Anderson, S. C.
Anderson County Hospital

As pointed out by Doolin¹ of Ireland, early in the 18th century Littre reported to the Academie Des Sciences at Paris a case in which the sole occupant of an inguinal hernia sac was a blind appendage or diverticulum arising from the terminal ileum. But it was not till more than a hundred years later that Johann Friedrich Meckel,² one of the most famous anatomists that Germany has produced, correctly ascribed the origin of this structure to its embryological connection with the omphalo-mesenteric duct. He showed how the vitelline or omphalo-mesenteric duct which in embryo connected the mid gut with the yolk sac occasionally did not disappear about the 8th week of embryonic life, as usual, but persisted through fetal life and after birth as an embryonic remnant. This remnant may persist in its original position as a tube extending from the small bowel to the umbilicus. Or it may be detached from the navel and remain free or become attached elsewhere in the abdomen. It may vary in length from a mere out-pouching on the ileum to a tube 33 inches in length. For this reason the diverticulum arising from the terminal ileum that may be found in from one to two per cent of individuals, is called Meckel's diverticulum.

Just how frequently an individual possessing a diverticulum is made sick thereby is not known. Turner of Guy's Hospital, London, reported that in a series of 10,360 autopsies in which Meckel's diverticulum was found in 81 instances, that 20, or about 25 per cent, of the diverticula were diseased. But no such proportion are sufficiently inconvenienced to seek medical aid.

The hospital with which I am associated, serves a population of about 100,000 people. We have annually about 2,000 patients, or one out of 50. If two per cent of these 100,000 people, that is, 2,000 people, have diverticula, a proportionate admission rate—one

out of 50—would make 40 cases due each year. The past year only four cases of diseased diverticula were admitted. So our experience last year would suggest that 10 per cent of the people having diverticula are made sick enough thereby to seek hospital treatment. This paper then will not apply to a large group of our surgical patients, but the small number who fall in this group are all acutely ill and, in the not distant past, have fared badly in the surgeon's hands. Thus Wellington³ in 1913 reported from the literature, about 200 cases of obstruction due to Meckel's diverticulum with a mortality of about 50 per cent; 50 cases of acute diverticulitis with a mortality of 40 per cent; six cases of typhoid perforation of Meckel's diverticulum with a mortality of 100 per cent. No doubt more recent statistics would show a lower mortality. But I venture that the experience of every surgeon here would cause him to say that the mortality is still all too high. For this reason I submit the following case reports. In addition to the story of the cases reported, your attention is directed to the following thoughts:

1. Heredity as an etiological factor in Meckel's diverticulum.
2. The possible difficulty of making a timely diagnosis of typhoid perforation.
3. The feasibility of doing a primary tube enterostomy in typhoid perforation in certain cases.
4. The possibility of an independent surgical emergency, as intestinal obstruction, developing during typhoid fever.
5. Perforating peptic ulcer of Meckel's diverticulum.

CASE REPORTS

CASE 1.—On June 29th, 1930, at 10 p. m., a white farmer of 36 was admitted to the Anderson County Hospital on the 14th day of a spell of typhoid fever. About six hours before admission, he experienced a sudden, severe pain in the lower abdomen. Pain

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

was followed by nausea but no vomiting. An hour after the onset of pain he was seen by his doctor who found him to have a temperature of 103 degrees, pulse of 88 and an exquisitely tender area in the lower abdomen, worse on the right side. He did not present the picture of surgical shock but was still in great pain and was given $\frac{1}{4}$ gr. morphine. A few hours later he was comfortable. At this time there was very slight abdominal rigidity and only moderate tenderness on deep pressure over the right lower abdomen, his temperature was 103, pulse 100, blood pressure 120/90, urine normal, and white blood count 9,500 with only 60 per cent polymorphonuclears. In spite of the fact that a very capable physician whose judgment we respected very highly, had made a diagnosis of typhoid perforation, we felt duty bound, in view of the above clinical findings, to decide against immediate operation. About eight hours later, pain followed by nausea and vomiting developed and soon thereafter general rigidity, tenderness, and moderate distention were present. Operation was performed 10 hours after admission under spinal anesthesia. Peritonitis was developing. A 22-bullet-size perforation in the terminal ileum was found and closed. A few inches proximal to this perforation, on the anti-mesenteric side of the ileum, was a Meckel's diverticulum of about the size and shape of the terminal phalanx of an adult thumb. There was a potential rupture of a typhoid ulcer in the free end of the diverticulum. The diverticulum was purse-stringed above its base and it was invaginated in the ileum. By finger-to-thumb invaginating palpation of ileum it was demonstrated that the diverticulum so treated did not occlude the ileum. Multiple rubber-tissue drains were introduced and the wound closed. The usual treatment for peritonitis was instituted. After 24 hours septic ileus had developed and through independent incisions enterostomy was done in the right and left lower quadrants. The patient ran a very stormy peritonitis course. The enterostomy tubes came out on the sixth day and a very profuse fecal drainage from fistulae persisted for many weeks. After the peritonitis and typhoid disappeared and his appetite returned, the patient gradually improved in strength but the fistulae would not close. In October, three and a half months after admission, fistula on left side was closed and 10 days later the right side was operated upon. In addition to the enterostomy opening in the terminal ileum, another very large opening resembling a generous blow-out in a tire was found. This was apparently due to a blow-out at the site of the inverted Meckel's diverticulum. With considerable difficulty these openings were closed and 30 days later the patient was discharged in good condition.

CASE 2.—Nine days after admission of the above patient, his 14-years-old daughter was admitted with the following history: Three days previous, during sixth week of typhoid fever, she developed abdominal

pain with nausea and vomiting. The pain was colicky in type and distinctly recurrent. No gas passed and a moderate degree of distention developed. For 24 hours before admission, fecal vomiting was frequent. The patient was emaciated, dehydrated, and slightly cyanotic. Her temperature was subnormal and pulse 140. Peristalsis was visible and audible. She was given glucose solution intravenously and immediate operation was done. The small bowel was all distended save the terminal ileum. About 18 inches proximal to the ileo-cecal valve was a Meckel's diverticulum coming off the anti-mesenteric border of the ileum. The distal end of the diverticulum was firmly attached to the parietal peritoneum, external to the sigmoid flexure. Beneath the fixed band so formed, lay many loops of incarcerated small bowel. The band was released, the diverticulum removed, and enterostomy done. The obstruction was relieved, but in spite of stomach lavage, the administration of hypertonic sodium chloride solution and other measures the patient died 12 hours later.

These cases of Meckel's diverticulum occurring in father and daughter, have been sketched for you not merely for their coincident surgical interest, but also to raise in your minds the subject of heredity as an etiological factor in this congenital deformity, which Miles F. Porter says is a greater menace to its possessor than is a diseased appendix. We have found nothing in medical literature bearing directly on this question, but the law of averages, which all physicians highly respect and upon which they daily depend in making differential diagnoses, compels us to believe that these cases speak strong for heredity as an important etiological factor. The general incidence of Meckel's diverticulum is given by medical writers as from one to two per cent. The odds then, against either of the above named individuals having a diverticulum were about 99 to 1. Denying for a moment heredity as a causative factor, what were the odds against a father and a daughter each having a diseased Meckel's diverticulum? Admit heredity as a causative factor and our law of averages is much less strained. Then too, other developmental defects which are superficially situated and therefore the easier studied, such as harelip, cleft palate, talipes, hypospadias, and syndactylism, are known to be hereditary in varying degrees. From the nature of the case, statistical proof of this theory is not available but your attention is directed to the idea for further study.

The difficulty we experienced in making a timely diagnosis in case 1, was not due to our not thinking of typhoid perforation, for the patient was brought in with that diagnosis. The relative comfort of the patient, the absence of abdominal rigidity and tenderness, the low white cell and poly count seemed to make a perforation improbable and hence operation was deferred. My tardy diagnosis on this patient impressed on me the old truths that a careful history is a very important factor in making correct diagnosis; that leucocytosis is not a constant early finding in typhoid perforation. However, when operation was performed if the typhoid-ulcer-capped diverticulum had been excised, the bowel sutured and a primary tube enterostomy done in the perforation, this patient would probably have had a much easier and a very much speedier convalescence and would have been spared several other operations. The advisability of doing a primary enterostomy at the site of a typhoid perforation has recently been suggested by Lon W. Grove⁴ of Atlanta, who points out that it is an efficient way of handling the perforation and at the same time insuring against an ileus. In our case this method would have been ideal we believe.

This observation is pertinent in reviewing case 2—a surgical emergency—as intestinal obstruction may develop during a case of typhoid fever and when it does demands unusually prompt surgical treatment for obvious reasons. This little patient had just about won a successful battle with typhoid fever only to lose her life by a neglected obstruction. (This neglect was not due to neglect on the part of the physician in charge but mainly to economic and domestic reasons.)

Harbin⁵ in a recent article states that in his experience 10 per cent of all cases of intestinal obstruction are caused by Meckel's diverticulum. For some reason the mortality of intestinal obstruction of this origin is very high. I believe the reason is in part this. While the diverticulum may "snare" a loop of gut, as described by Treves, and thereby obstruct it, more frequently the distal end of the diverticulum is attached and beneath the somewhat fixed band so formed, varying numbers of bowel loops may become incarcerated. Resulting obstructive symptoms appear but they may recede because one or more loops of bowel may, by normal peristalsis or

bodily movements, slip out from beneath this band and partially relieve obstruction. While this paper was being prepared, we operated upon a patient whose case seemed to teach this. In June, 1925, we had removed a ruptured, gangrenous appendix from this patient. He made a good recovery. Three months later he came in with rather severe obstructive symptoms that were relieved by symptomatic treatment and he left the hospital in two days entirely relieved. During the succeeding five years he had occasional similar attacks. In January, 1931, he came to the hospital after having been partially obstructed for a week. Twice during this time he appeared relieved but symptoms recurred. On admission he was having fecal vomiting and all the classical symptoms of obstruction. Operation revealed a short diverticulum about 12 inches from ileo-cecal valve, with a firm cord extending from its tip and attached in the pelvis. Beneath this cord were many loops of incarcerated and distended gut. As the imprisoned loops became more distended and made the mesentery more taut, this constricting band was beginning to act as a tourniquet and strangulation was threatening. He was relieved by excising the diverticulum and doing an enterostomy. Had the strangulation process progressed a little more, operation would have been of no avail. The partial relief from obstructive symptoms which this patient experienced was probably due to some of the loops of incarcerated bowel slipping out from beneath the band, thereby allowing a partial emptying of the small bowel. The lesson from this case seems to be that the patient who has intestinal obstruction is by no means out of danger when he gets a partial relief of obstructive symptoms. And if too much attention is paid to partial relief the patient may have the dangerous element of strangulation to combat in addition to the dangers of mechanical obstruction.

CASE 3.—On December 20th, 1929, at 9 p. m., a white man of 20 years was admitted to the hospital suffering severely with abdominal pain of 12 hours' duration. The attack began suddenly with severe mid-abdominal pain followed by nausea and vomiting and subnormal temperature. He had not been relieved by $\frac{3}{4}$ gr. morphine. His abdomen was board-like and extremely tender, temperature 99 degrees, pulse 100. A diagnosis of acute ruptured appendicitis was made and immediate operation done under spinal anesthesia. The abdomen was full of

thin, yellow, odorless pus. The appendix was not ruptured and no more inflamed than other portions of bowel. The upper abdomen was explored and no evidence of ruptured viscus found. The lower abdomen was again inspected and on the anti-mesenteric border of the terminal ileum was a short, wide diverticulum having at its base a bullet-like perforation. The diverticulum was excised and bowel sutured. Abdomen was closed with drainage and patient made a smooth recovery. Pathological report of specimen did not mention finding gastric glands in mucosa. This patient gave no history of having indigestion in recent years nor of ever having had intestinal hemorrhage. Therefore it was probably not a perforation of a peptic ulcer, though on the operating table it presented a perfect counterpart of a ruptured gastric or duodenal ulcer.

L. F. Barney⁶ of Topeka, Kansas, quotes Guibal of Paris as making the following conclusions concerning peptic ulcer of Meckel's diverticulum.

1. All such ulcers bleed and give rise to abundant hemorrhage.
2. The greater number perforate.
3. They always occur in young individuals and more frequently in boys.
4. The presence of gastric mucosa was found in nearly all cases.
5. The ulcers form at the junction of gastric with intestinal mucosa.
6. The origin of gastric mucosa is unknown.
7. The ulcer appears to be the result of contact of the gastric juice with the intestinal mucosa.

Children, then, who are subject to frequent transient colics and who have indigestion should be thought of as possibly having a Meckel's diverticulum. If unexplained intestinal hemorrhage develops the diagnosis of diseased Meckel's diverticulum becomes more probable. Exploration should be advised if the bleeding persists and cannot be explained.

References

1. DOOLIN, WILLIAM: Acute Abdominal Emergencies Due to Presence of Meckel's Diverticulum. *Irish J. M. Sc.*, Dublin, 1929, No. 43.
2. Biological Brevities. *The Am. Jour. of Surg.*, Nov., 1929, p. 126.
3. WELLINGTON, J. E.: Meckel's Diverticulum with Report of Four Cases. *Surg., Gyn. & Obst.*, 1913, xxi, pp. 74-78.
4. GROVE, LON W.: Perforated Typhoid Ulcer Closed by Primary Enterostomy. *The Am. Jour. of Surg.*, Oct., 1930, pp. 149-150.

5. HARBIN, R. M.: Meckel's Diverticulum. *Surg., Gyn. & Obst.*, Dec., 1930, p. 863.

6. BARNEY, L. F.: Meckel's Diverticulum. *Jour. Kansas Med. Soc.*, Topeka, 1927, xxvii, pp. 168-170.

DISCUSSION

DR. STUART MCGUIRE, Richmond:

My interest in Meckel's diverticulum was first aroused 30 years ago by the occurrence in my practice of three cases of intestinal obstruction due to this anomaly in a period of six months. I shall not go into the history of these cases, because the history of one is practically the history of all. They were all men between the ages of 30 and 40, and all were taken with acute, sudden abdominal pain; all were diagnosed acute appendicitis; all were operated upon, and all died. When I opened the abdomens of these patients I found from one to three pints of very bloody fluid. The intestines were acutely inflamed; the appendix in each shared the inflammation with the bowel; but careful search showed the presence of Meckel's diverticulum, whose tip was attached to the mesentery, and under which had insinuated coils of the small bowel which were obstructed and by pressure had caused gangrene of the diverticulum. These three cases, as I say, were the first I had ever seen. I became interested in the subject and eagerly awaited the appearance of other cases. I have continued to see normal diverticula in the bowel during the course of operations for other troubles, but I do not recall having another case of intestinal obstruction from a Meckel's diverticulum.

Dr. Young has had a remarkable experience; he has had four cases in the course of one year, and three of his patients recovered. I hope he will not have any more.

According to theory, Meckel's diverticulum is a congenital anomaly due to the failure of absorption of the vitelline duct. This duct should be absorbed by the sixth or eighth week, but it sometime persists. It usually occurs as a prolongation or diverticulum from the bowel, like the finger of a glove. It may be short, merely a pouch; or it may be six or eight inches long. It may have an almost imperceptible lumen, or the lumen may be as large as that of the bowel itself. It may be attached by a cord to the under surface of the umbilicus. Its end may become adherent to adjacent mesentery or even to the bladder, or again the end may float free in the bowel.

Now, Meckel's diverticulum causes trouble in either of two ways, by becoming perforated or by causing strangulation. It is a curious fact that many Meckel's diverticula examined are found lined with mucosa similar to that of the stomach, which mucosa secretes hydrochloric acid, and this secretion sometimes causes an ulcer at the base of the diverticulum, just as occurs at the duodenum from the irritation of the gastric juice. Again, you may have perforation of this diverticulum in typhoid fever, as described by Dr. Young. I have never seen this

happen, but fortunately I have seen very few cases of typhoid fever.

Sometimes the diverticulum wraps itself around the bowel. There is no way in the world to make a preoperative diagnosis of trouble from Meckel's diverticulum; anybody who does is just a rank guesser. But trouble from Meckel's diverticulum, either perforation or strangulation, causes what we term today "acute abdomen." Now, any acute abdomen should be opened, but if there is any that certainly should be it is Meckel's diverticulum, because if left alone it will certainly end in death.

I expect there are many here today who have removed an acute appendix, an appendix acutely inflamed, but have left behind an inflamed Meckel's diverticulum, because you did not stop to look for it. There is one point in diagnosis; they always give rise to free bloody fluid in the abdomen. If I should open an abdomen thinking to find acute appendicitis and were confronted with a pint or more of free bloody fluid in the abdomen, I am sure I would think at once of Meckel's diverticulum.

DR. D. T. TAYLOR, JR., Washington, N. C.:

Dr. Young and Dr. McGuire have very completely covered the subject, but I have with me an x-ray film which demonstrates the rarest type of Meckel's diverticulum—that is, the Patchler's tube in connection with the umbilicus and terminal ileum. The child was normally born, and the cord was ligated about two inches from the umbilicus and came off about the fifth day. After the cord came off the mother noticed a persistent drainage from the umbilicus. The usual palliative treatment for this was instituted but was of no avail, and the discharge became very irritating. About the third week a polypous protrusion appeared at the umbilicus, with a tiny opening in the center. It looked very much like a urethra. Sometimes this umbilicus would drain very little for an hour or so and sometimes would not drain for two or three hours, but the exact nature of this secretion we could not form an idea of. So I suggested to my brother to put a little opaque solution into this opening and take a pyelographic picture of it. So we put a catheter in there, and when we did so I found to my surprise that it was a Patchler's tube diverticulum.

DR. D. A. GARRISON, Gastonia:

This is a very interesting subject. I have had two cases in my work—really three. I will report the successes, just for a minute.

In 1927 a man was brought to my office giving the history of a motorcycle wreck. He got along nicely for three days, when his lower abdomen became rigid, hard, almost board-like. They did not want him operated on, saying he was going to die, anyhow, because he had an internal injury. I finally, on the fourth day, got the consent of the family to operate, and on going in I found that the Meckel's diverticulum had encircled the intestine and attached itself (the free end) to the base, which gave a per-

fect obstruction. It was removed and treated in the usual way, and the bowels were opened up, and this young boy (16 years of age) made a perfect recovery.

My next case was in December, 1930, in which I was called about 8 p. m. by a doctor who said he had a case of strangulated hernia. The man had taken two nights before four compound cathartic pills and got 11 stools. The fellow was quite weak and felt pretty bad. We carried him down to the hospital and opened him up that night. Following the cord right down through the ring was a Meckel's diverticulum. When we opened it up and pulled it out, it was black. They had been working on it for two or three days, to reduce it. That was a button-shaped one and came through the ring. That was cut off and sewed up. The lumen was the size of the intestine. That fellow, to my surprise, made a perfect recovery and is in good condition today. I saw him day before yesterday, and he says he is not having any trouble and is getting along nicely and is doing a little farm work.

Now, where a diverticulum will go and where you will find it is a problem, always, and as Dr. McGuire says, the man who makes a diagnosis of diverticulitis is a pretty good guesser.

In the other case, which was in 1924, we did what we thought we could, but we got a fecal fistula and a death on about the sixth day.

DR. D. LESENE SMITH, Spartanburg:

I rise simply to add that this past summer (I think it was in July) we saw a case of intussusception from Dr. Young's territory in which the intussusception was due to the Meckel's diverticulum. As one speaker remarked that Dr. Young had had quite a number of cases recently, I simply want to add this other case from his territory. It might be endemic in his section.

DR. YOUNG, closing:

I thank the gentlemen for the discussion. I did not know we had an endemic of this thing. Last year I was over in Tennessee, at the sixtieth celebration of the medical society. There were a great many good speakers there, among whom was one fellow from the Mayo Clinic who told a good story. (Some of you may have heard it before.) He said the question was asked, "What is rabies, and what can you do for it?" The answer was: "Rabies is a Jewish preacher, and there is nothing you can do about it." If we have an endemic of Meckel's diverticulum over our way, there is nothing we can do about it. I am not proposing any new anatomical style.

I thank the gentlemen for the discussion.

London *Punch* shows a British flapper telling a friend she fears she will be asked to hold a baby, and she doesn't know how to hold it. The friend replies: "Don't be an ass; it is just the same grip as for a cocktail shaker."

DEPARTMENTS

HUMAN BEHAVIOR

JAS. K. HALL, M.D., *Editor*

DIANA OF THE CAROLINAS

In the Charlotte Daily *Observer* of May 4th an editorial is captioned, "Duke Ramifications." And in a news item in the same paper of the day before I read that George G. Allen, of New York City (absentee landlordism), President of the Duke Foundation, is to be given an honorary degree by Davidson College, the Calvinistic educational institution for North Carolinians, at the commencement of that College in June. Davidson is one of the many educational institutions that was graciously permitted to touch the hem of the Duke garment. Many an editorial could be, and undoubtedly will be, written about the ramifications of Duke money and Duke influence. Diana—may God rest her!—is dead at Ephesus these many years, but she has a newly-upreared successor in the Carolinas, and the name of that successor is the Duke Foundation. Might it be deemed paganistic or irreverent to suggest to the godly that Davidson substitute for her motto (formulated by the late Peter Stewart Ney?), or add to it: *Quid pro quo*, or *In hoc signo*? Mottoly speaking, at least, Davidson would then be somewhat in the same plane as the Great Torch of Learning in Durham.

COMMON SENSE AND THE HUMAN MIND

It must be pleasant and agreeable, and it is undoubtedly helpful to the individual, to attain social popularity, but there is little evidence that it is a prerequisite either to success or to self-respect. It is undoubtedly true, however, that a new type of therapy, chemical or otherwise, in looking for ready acceptance and popularity must view with an envious eye the ease with which even a large camel finds it possible to glide unhindered through the eye of a small needle. Nietzsche, the gloomy, Teutonic philosopher, is reputed to have said (isn't he?) that mankind has ever hated a new idea. It is certainly true that few such ideas have been evolved. Those individuals entrenched within theological or

medical or legal self-esteem have probably been the most intolerant of all mortals. Medical carefulness is necessary and commendable, but I have no doubt that the fear of being thought to be a quack has deterred many a medical man from following some pioneer idea to a conclusion that might have been both inspiring and helpful. Most professional men are, unfortunately, taught to believe rather than to think. The hand of either dead, or high-enthroned, authority still rests too heavily upon mental activity. The young man fears to let himself go lest his unbridled activity call criticism down upon him: the olding man, because of the departure of the spirit of adventure from him, can not let himself go. In consequence, unhappily, the increase of knowledge is small and slow.

The introduction of a new system of philosophy has always been as disturbing to human complacency as the appearance of a shark at a bathing beach. In grooves worn smooth by others we live more comfortably, if not more efficiently. The late Governor Aycock, of North Carolina, once told me that the term, abnormal, was born of an early Roman, agricultural parentage, and that the word means *to be out of the furrow*. We are not so anxious to keep from peeping over the edges of the furrows ourselves as we are to keep our fellow mortals in their predestined grooves.

All these perambulations could bring me nowhere else, of course, than to a consideration of psychoanalysis. I wish it were another word. All around me is spread the candid and serene beauty of the dogwood blossoms with all their luxuriant loveliness, but I should enjoy them less were I obliged to think of them by their botanical name, *Cornus florida*. In words, as in flowers, there is a quality which attracts or which repels. The word, psychoanalysis, is too suggestive of unmanageable, philosophic profundity. It really means, of course, the common-sense method of understanding the human mind and the sensible way of ministering to the mind when it is out of tune. If you are deterred, as I am always, by the word, then read in the *Journal of the American Medical Association*,

April 25th, the very first article. It is entitled: *Psychoanalysis and Medicine*. It was the address made on January 15th before the Harvey Society in New York by Dr. Franz Alexander. He is from Berlin, I think, and he is spending the year at the University of Chicago.

Einstein spent recently many weeks in this country. He went home and all that he left behind was the widely-advertised and much-multiplied statement that he understands completely some theory that no one else has sense enough to grasp at all. That is well, of course, for the maximization of his own ego, but hard on our good opinions of our own mentalities.

I shall not undertake to review Alexander's contribution for the same two reasons that I would not attempt the formulation of a synopsis of the Decalogue. In the first place, the contribution can not be condensed. Each sentence in it sets forth an idea, and it does so lucidly, simply, appealingly: I should not, in the second place, attempt a re-formulation of Alexander's ideas because it is unnecessary; the physicians of the United States are practically all readers of their great Journal. Whether they practice this specialty or that; whether they be surgeons or internists; pediatricians or proctologists; syphilographers or psychiatrists; ophthalmologists or aurists; whether they think they understand psychoanalysis or know nothing at all about it; whether they be set against it or approve it; let them all remove the wrapper from the Journal, turn to its first page, shut themselves for two hours away from the world, and read slowly and carefully, word by word, and sentence by sentence, this magnificently set-forth contribution to the common-sense attempt to understand what the human mind is and how it functions.

Psychoanalysis has long been tapping—hesitantly, often, noisily and immodestly, at times—at the portal of materialistic, American medicine. And now, at last, the door has been opened wide and hospitably to Franz Alexander! How could it have been otherwise? No other pen in America, save that of Dr. William A. White, can write so clearly, so engagingly, so informingly, so helpfully about the common, the obscure, the intangible, the human, the every-where things of every-day life. In order that you may lift

up to a higher level the inverted bowl under which we all live and crawl; in order that you may know your neighbor and your own self better; in order that you may look upon your fellowman and yourself neither as a god nor a clod; then read Alexander.

THE GALLANT PELHAM

Were all wars carried on under the leadership of such chivalric commanders as J. E. B. Stuart, fighting and killing would become so ennobled as to threaten the human race with extinction. No more romantic or appealing character has been portrayed in fiction or in history than General J. E. B. Stuart, the Confederacy's great cavalryman, who fell from his saddle mortally wounded on a May day in 1864, within three miles of the place of my daily activities. Surely no more engaging personality has been known in American history. I have been permitted to minister to a number of his old troopers, and to their last breath they were amazed and inspired by the lilting laughter and the gay gravity of the great cavalier. If you would look upon human courage at the very pinnacle of its grandeur—and courage is undoubtedly the most admirable of all attributes—read the recent biography of Stuart by Thomson. No evidence has been produced that Stuart ever experienced within himself the emotion of fear.

Stuart's horse-artillery, as famous almost as Stonewall Jackson's foot-cavalry, was commanded by John Pelham, who was habitually referred to in Stuart's reports of his engagements as "the gallant Pelham." Recently I have received from the hands and the heart of my friend, Dr. Percy G. Hamlin, of the staff of the Friends' Hospital of Frankford, Philadelphia, a brief biography of John Pelham by Philip Mercer. Omniscience is so much a part of him that I scarcely think it worth while to send information of any kind to Dr. J. Chalmers Da Costa—may God bless him for his greatness and his goodness!—the distinguished occupant of the chair of surgery in the Jefferson Medical College. It may be true, however, that Dr. Da Costa does not know that Stuart's great artillerist was the son of Atkinson Pelham, who was graduated from Jefferson about 1830. Dr. Atkinson Pelham was a native of Kentucky, but after his graduation in medicine he lo-

cated in Person county, North Carolina; there he married Martha McGehee; and in Person county he practiced medicine for probably seven or eight years. Afterwards he followed his wife's father to Alabama, and in that state his son, John Pelham, who immortalized the name, was born in 1838. Secession took the latter away from West Point in April, 1861—two or three months before the completion of his course. Soon afterwards he joined Stuart, and, until a bursting shell fractured his skull in a brief engagement at Kelly's Ford near Culpeper, his angelic face and his golden locks shone in the death and destruction of sixty battles, yet he remained unscratched until his final call came on the bank of the Rappahannock on Saint Patrick's Day, 1864.

The Jefferson Medical College was founded by the father of General George B. McClellan, around whose entire army Stuart and Pelham rollickingly rode more than once. I think it might be fitting for the alumni organization of Jefferson in North Carolina to find the house or the house-site in Person county in which Dr. Atkinson Pelham lived, and to place a marker upon it. He begat not only the glorious and gallant cannoneer, but five other sons as well, all of whom gave their services to the cause of the South.

SCHIZOID MORALITY

Neither do I fully comprehend the meaning of the term, but there is no good reason why one can not as easily become accustomed to a new word as to a new pair of shoes or to the uncomfortable binding of a new hat. Either of the two words is as well understood, perhaps, as the other. The latter seems to be going out of fashion; the former is making some effort to acquire standing. At any rate, the recent annual session of the Bankers' Association of North Carolina precipitated the thought-difficulty.

The custom has prevailed amongst the financiers of that State of paying upon long-standing deposits in banks an interest-rate of four per cent. But both the banks and the bankers are desirous of making more money—who isn't? How? Easy. Reduce the reward to the depositor from four per centum per annum to three per centum per annum. That inspired suggestion was heartily and unanimously endorsed. To be sure. The prosper-

ity of a community depends upon the prosperity of the banks in that community. The process of reasoning sounds logical to my ears. Unfortunately, I failed in my earlier days to indulge in the study of logic. The inspiration relating to the reduced dividend called forth the vocal and lusty approval of one of the chief members of the banking fraternity from the Commonwealth of Virginia. The banks in that State have long been rewarding their chronic depositors with the lesser bonus for the use of their money. And the unprejudiced eye can undoubtedly see in the Old Dominion a greater and a more widespread degree of prosperity than in the Upper Carolina. Sound banking principles evidently have their effect.

A dream, I thought, came in the night and stood at the head of my bed and spoke. The president of a great bank verbalized in a brief note the expression of his hope that he might sometime experience the deep satisfaction of indulging in his office in a cheerful conversation with me. He was my friend and I his. Had he not permitted me for many years to engage with him in an effort to prevent his coffers from bursting their hoops and scattering money all around in reckless and unseemly, prodigal waste? The dream fetched me eventually into a happy visit to his office. I hoped that in his desperation he sought my help in an effort to maintain the integrity and the safety of his bursting bins. The solution suggested by me was based upon the procedure usually adopted to bring about relief from that type of dyspnea caused by ascites—induced outflowing of a portion of the intraabdominal fluid. I was astounded at his failure to approve the suggested tapping. And for this reason I know the experience must have been a dream: in his fertile and agile and philanthropic mind was instantly born the happy thought that the situation could much more safely and satisfactorily be dealt with otherwise—even though it might be true that money was not so plenteous in the State of Washington and Lee as the sand once encountered upon a certain seashore by a walrus and a carpenter. There had been and there was still in motion an induced flow New Yorkward. There need be neither hesitation nor difficulty in dealing with the condition scientifically and curatively. The suggested therapy was as follows:

upon renewal of his note the dreamer would be permitted to withdraw from the bank not the entire thousand dollars for which he had given his note, but only eight hundred of the thousand dollars. To whom belongs the retained two hundred dollars? To the borrower, of course! Usurious rate of interest? How absurd! What a kakophonous term! Think rather of the beneficent arrangement we bankers have formulated to care for our customers! By the way, my financial saviour remarked: You would be enormously benefited by becoming a member of my every-Sunday-morning Bible class—only one hour!

How foolish and what a waste of time to attempt to rationalize a dream by analysis! Who is so fatuous as to believe that any dream arises out of any actual experience, or that the events in a dream have respect for space, time, actuality, or morality! The Homeric stories, the Biblical fables, and the psycho-analytical foolishness are about to be discarded at last. Nothing is so inconsiderate, so destructive, and so unveiling as Progress.

EYE, EAR AND THROAT

For this issue, J. F. NASH, M.D., St. Pauls, N. C.

THE COUNTRY DOCTOR AND O-L-A-R WORK

The professional relationship of the general practitioner to the O-L-A-R specialists is merely one of reference, *i.e.*, what patients to refer, to whom they shall be referred, and when. The family physician is often cognizant of facts and habits in the family and personal histories of patients that will materially aid in the diagnosis, and these facts should be communicated to the specialist at the time of reference.

EYE

There is no valid reason why the family doctor should not satisfactorily treat the commoner affections of the lids and conjunctiva—as pink eye, the conjunctivitis of the exanthemata, a mild granulation, hordeolum and blepharitis. Nor should he fail to recognize exophthalmos, trachoma, malignancies, cataracts and other surgical diseases of the lid and eye and refer these to a competent specialist. Penetrating wounds, or trauma with hemorrhage into the chambers, separation of the iris, and similar injuries require the care of an eye man.

Every doctor should own and use an oph-

thalmoscope. Refraction is only to be done by those experienced in that line. Iritis, if the financial condition will possibly justify it, should be referred, for few family physicians are familiar with the tonometer, and the injudicious use of atropine may do incalculable harm.

The family doctor must never fail to instil silver nitrate in the eyes of the new-born, nor should he neglect to impress a patient with gonorrhea with the necessity of carefulness—if he does neglect this the specialist will certainly see the infected eyes, and the family doctor will have both merited blame and qualms of conscience! The general practitioner has been derelict in the matter of referring “squints” early enough. He sees these little fellows frequently in the home, and timely advice to the mother will often make the difference between useful eyes and eyes of almost no use.

EAR

Minor skin lesions, and even erysipelas are in his province as are removal of not too severely impacted foreign bodies and wads of cerumen from the canal. Many an old fellow's hearing has been restored by his doctor softening and abstracting wax.

[The Editor won the gratitude, confidence and paying practice of a family by thus restoring the hearing of a man of more than average intelligence, who had learned that deafness is often irremediable and so had little hope.]

Most of the otitis media is due to, or is a sequel to, acute infections, especially influenza and measles. The ears of *every* infant and child with respiratory infections or the exanthemata should be examined, and a red-dened, bulging drum should be immediately opened. Paracentesis is a simple procedure, and usually relieves ear-ache promptly, and certainly lessens the incidence of mastoiditis. Involvement of the mastoid of course demands surgery. The family doctor should be on the lookout for this development and refer it promptly.

NOSE

Family physicians would have to retire from practice if they did not treat the hypertrophied nasal mucosa of acute infections, snare small polyps, pack for hemorrhage, and remove buttons, beads, seeds, etc., from children's nostrils; but they show wisdom when

they do not attempt operative projects on the turbinates or septum.

THROAT

The family doctor should treat the ordinary throat affections, incise a peritonsillar abscess, and administer serum when there is diphtheritic membrane. A neglected laryngeal diphtheria should, without a moment's delay, be sent to one skilled in intubation. To do tonsillectomies or not is like the "Dunking: Crumbling" debate; though it is my honest belief that general practitioners should not attempt them, unless in selected cases electro-coagulation is used. In emergency cases of laryngeal obstruction from any cause do a tracheotomy, if necessary to save life.

It is not possible to enumerate all cases that should be treated or referred; each one must be evaluated, and the decision made on the findings. However, it is a safe and sane rule to refer all cases in which there is doubt of ability to diagnose and adequately treat; always bearing well in mind all the factors in the case—including the financial status, and that a family doctor should constantly strive to enlarge his field by constantly increasing his equipment, mental and material.

ORTHOPEDIC SURGERY

For this issue, G. G. DIXON, M.D., Ayden, N. C.

THE FAMILY DOCTOR AS AN ORTHOPEDIC SURGEON

During my senior year in medical college Dr. Ned McGuire said to my class: "When I was just beginning the practice of medicine, if I heard of an accident, I immediately got into my buggy and drove in that direction, hoping that I might get the opportunity to treat the case; but since I have grown older and have seen the bad results that we often get in fractures (for they never die and always meet you on every corner, pointing out to you your inability to get good results), now when I hear of an accident I get into my buggy and drive in the opposite direction."

Orthopedic surgery, obstetrics, gynecology and pediatrics compose a large part of the general practitioner's work; that is a general practitioner located in a small town or rural district. There are a good many things in orthopedic surgery that are naturally beyond the ability of a general practitioner to handle

well; yet, on the other hand, the majority of the work done in orthopedics is rightfully in the field of the general practitioner in the rural district. All of the fractures that are treated without an open operation can be treated as well by a competent general man as by a specialist. The majority of bone work that we have is that of fractures of the long bones.

With the advent of the x-ray and with average knowledge and a moderate amount of horse sense, the reduction of all these fractures is fairly simple. Of course, few general men have sufficient amount of work in the line of orthopedic surgery to justify investing in an expensive fracture table, but if there is sufficient brain there is no necessity for the fracture table for the above-mentioned conditions. We admit that a fracture bed is convenient for a fractured femur, but a little mechanical ingenuity on the part of the doctor can rig up extensions, weights and pulleys on any kind of bed. All general practitioners should be competent to do plaster work. They should be as competent to apply the three-handkerchief bandage for fractured clavicle as the specialist. In addition to these things, there has been devised and is on the market an almost fool-proof splint for every known condition of the limbs, that does not demand an open operation. It has been my observation that there is as large a percentage of non-union in the practice of the specialist as there is in the practice of the general man. All of these cases are caused by one of two things—diseased conditions of body and bone or a failure in adjusting the fragments. The general practitioner who has been treating this patient knows the family history, knows the characteristics, is in better position to know the probability of non-union than a specialist in a distant city without having to use all of the laboratory diagnoses.

A few years ago I visited a classmate of mine who is located in Richmond, Va., and looking over his office, I saw no equipment for taking care of accident cases, fractures, cuts and bruises, so I inquired of him how he handled these cases. His reply was, "I do a general practice—that is, making house visits, office examinations and prescriptions." I asked him if there were no accidents in Richmond. His answer was that they were taken to the hospital, the general man did not come

in contact with them. Upon reaching the hospital accidents were referred to the specialists that they came under which was right and proper.

To my mind there are two distinct places that we should have orthopedic specialists; one in large industrial centers where there are innumerable injuries of all kinds. I am a greater believer in men in medicine making themselves most proficient in the line of work that they do most. The other place for the orthopedic surgeon is in medical centers to take care of referred work that the general practitioner cannot handle on account of lack of equipment and lack of surgical skill and all bone surgery that is done in an open operation. The sprains of joints and muscles can be handled as well as fractures.

The chief field for orthopedists and all other specialists should be that of teaching. There is no place on the staff of a medical college for a general practitioner; yet no medical college should graduate any specialists; in other words, the pediatrician should teach the medical student all he knows of pediatrics, the gynecologist should teach his medical student all he knows of gynecology, the orthopedist, the internist, the obstetrician, the radiologist likewise; for to make a competent general practitioner all the specialties are required. A good general practitioner is one who is well versed in all of the branches of medicine, and is qualified for handling all but extraordinary cases in all fields, and should know the theory of these as well as the specialist knows them; for unless the specialist is checked by the general practitioner there is a probability of his work not being the best.

If a man is contemplating doing any one of the specialties he should first have training in general practice, in order that he may know the whole body and the various ills that it falls heir to; for there is no one part of the human body complete within itself; all parts are interdependent and every patient must be treated as a whole.

For the past several years too many men have undertaken to limit their practice to some one group or diseases, or conditions of parts of the human anatomy, without being competent in all of the other fields. So long as such conditions exist the modern general practitioner is far better equipped to treat

orthopedic and other conditions that come in his daily practice than the average specialist.

RADIOLOGY

*For this issue, OTHO B. ROSS, M.D.
Charlotte, N. C.*

THE FAMILY DOCTOR AS A ROENTGENOLOGIST

The family doctor has rather accentuated the art, than the science of the practice of medicine. As the science has grown the practice has swung toward the scientific and away from the artistic. This has been the tendency in modern medicine. Hence the change from the family practice to the specialties.

The practice of a science is based on the minutiae of scientific facts. The study and practice of any science requires the instruments of scientific precision. The scientific process is the process from the many to the one. It is the inductive process from the many individuals facts to the absolute conclusion.

The family physician, to become a scientist, must have the instruments of science. These are a clinical laboratory, microscopical, and biological laboratory, x-ray, and all the instruments of precision that are used in the various special branches of medicine. Only the great minds in medicine have been equal to approach this task: such as Osler and Pepper. It is evident that no mind is equal to the task of acquiring all medical science as it has developed today.

What then is to become of the family practitioner? Is he to give up his peculiar art; that art that expresses itself in understanding the problems of the family? My answer is that he is to keep that peculiar art and add to it that amount and special kind of scientific attainment that he is best fitted to acquire and which has a special appeal to him.

This means three very definite things; 1. he will become in part an office practitioner; 2. he will become a good scientist, acquiring the general scientific knowledge of the whole science of medicine; 3. he will probably, if he finds a branch that appeals to him go deeply in some special line of science. In other words the practitioner of the art of family medicine will add a laboratory where he may practice his general science. Then if he is a real seeker after the truth probably

some special subject will grip him and lead him into a thorough study of that special line. The salvation of the general practitioner is to become an office doctor. He must be a scientist. He can become a limited scientist; that is a specialist. But if he is to remain a general practitioner he must add general science to his paraphernalia. If he adds general science he probably will become specially interested in some one branch. Then he becomes a family practitioner with a special line that he is peculiarly interested in. This line of reasoning should give a basis for the consideration of the family doctor as obstetrician, gynecologist, neurologist, or roentgenologist. I think that the specialist has rendered a signal service in changing the practice from the home to the office and hospital. This service the family doctor should accept leaving the visits to the home to only those patients who cannot come to the office or who cannot be properly studied in the office. I believe that this change has not been properly understood by the family physician. When it is properly adapted to his work I believe there will be no question of what the future of the general practitioner is to become.

The proper estimate of the value of any medical branch may be considered from these angles: 1. the value to the patient; 2. the value to the science; 3. the value to the practitioner. The best interest of all three of these must be met before that process can be said to be established. Let us study the general practitioner as a roentgenologist from these three angles.

Is it desirable from the standpoint of the patient that the family physician do roentgenological work? If any of these three tests is more important than the other the good of the patient should come before the good of science or the doctor. The family doctor doing x-ray offers certain things to the patient. Probably the most evident of these is availability. To have an x-ray at hand at all times means much to the patient. The foreign body can be removed. The pleurisy case can be determined as non-tuberculous or tuberculous, dry or wet. The fracture can be frequently examined fluoroscopically to maintain position. The case of indigestion can be classified as functional or organic. All of these services can be better rendered to the patient by a specialist as roentgenologist than by the family doctor as roentgenologist. But it is a

question of availability. Is the x-ray available to the patient and is the patient available to the x-ray? The above illustrations all come to mind as having gone through my office two days ago. I do not think any one of them would have been referred to an x-ray man if it had been left to the patient.

The financial expense is another very important item. The family physician is in better position to know the financial condition of the patient than anyone. Any x-ray work that he does is a part of other examinations and the charge is made a part of the complete charge. Every effort of course should be made to avoid the appearance of cutting the fees of other physicians. This can be done by making the x-ray charge as part of a total charge. Many patients are complaining of having separate charges from various specialists when they come for a complete examination. Any way in which the separate charges can be combined, eliminating duplication, is certainly desirable from the standpoint of the patient. Many patients are put to extreme financial expense because the physician, family or specialist, does not know the extent to which the patient exaggerates or hides symptoms. Certainly the physician with the family back ground would be best able to determine this point.

There can be no question of the fact that all of the scientific procedure should be available and within the financial reach of all patients. This is certainly not possible in x-ray with the present number of x-ray specialists. So this deficit must be made up by the general practitioner or the specialists in other lines than x-ray doing x-ray work, and when the specialist steps out of his special line into x-ray work he then becomes in that sense not a specialist but generalizes his work and becomes in part a general practitioner. This he most certainly has every right and obligation to do for he is seeking to do the most good to the patient. X-ray is one of the most valuable diagnostic agents in modern medical science. In the hands of one specialist to every 10 to 25 thousand people it is impossible that the diagnostic agent should be properly utilized. This problem can be improved by increasing the number of x-ray specialists. Still we face the difficulty of getting the patient to the roentgenologist. Already that contact is made with the general practitioner or the specialist doing

x-ray work. The best interest of the patient demands that this diagnostic agent shall be available.

So for the good of the patient the advantages are; 1. availability; 2. financial adjustment; 3. generalization of an important diagnostic agent. From the patient's standpoint are there any disadvantages?

Two principal disadvantages suggest themselves, 1. unnecessary use; 2. unscientific use. Recently a lawyer who is an insurance adjuster stated that he preferred not to send cases to a doctor or clinic that had an x-ray because they always had an x-ray bill. That is a terrible accusation against the ability to discriminate on the part of the medical man. The fact of the availability might make it a disadvantage. I wonder if this disadvantage is not more than balanced by the inability of the x-ray specialist to discriminate as to what is necessary. The fact is that he makes an x-ray examination in practically all cases referred, as they are referred for this purpose. So decision must be made usually by some general practitioner or generalizing specialist who is advising something out of his own field. It all comes back to the inherent honesty of the practitioner, and maybe that sense of family responsibility would inhibit the unnecessary use.

The unscientific use is a more vital disadvantage. It is most probable that the family doctor would never be able to use the x-ray as scientifically, accurately or with as exact interpretation as the x-ray specialist. This then becomes a matter of the ability of the man who uses the x-ray machine. It is equally true that the x-ray specialist beginning his work, or of limited experience or training, is not as capable as the roentgenologist at the head of the profession. This argument then traced to its limit would mean that only the most highly trained should make and interpret x-ray films. But ours is a practical science not an absolute one. Its aim is greatest good to the greatest number. No honorable practitioner will attempt the thing beyond his capacity and ability to understand. The dishonorable man is beyond the control of any code.

Next let us consider the family doctor as roentgenologist from the standpoint of roentgenology as a science. The advantages of roentgenology as a science in the hands of the family physician are: 1. increased appli-

cation; 2. utilitarian test of general experience.

The family physician as a scientist cannot be acquainted with the basic science of electricity and physics such as a specialist in x-ray can. Fortunately this is wonderfully taken care of by the makers of x-ray apparatus. The general practitioner should have the best machine on the market. A specialist knows how to operate and protect himself and the patient with an imperfect or poor piece of apparatus. But the general man needs the best in safety and performance. He needs a safe machine because he is not using it so much and a defect that might be dangerous to him or the patient would not be detected so readily. He needs a machine for which he can readily obtain prompt care and repairs, because he naturally has no time to keep the minute electrical and physical details of mechanical construction constantly in his grasp. Fortunately for the development of x-ray these two factors have been wonderfully taken care of by the manufacturers. A notable illustration of this is the shock-proof machine recently put out by one of these manufacturers. The service furnished by the manufacturers in the special locality should also be a very potent factor in choosing the kind of x-ray machine. Certainly this is such a specialized science that the family physician should determine to master the electrical and physical fundamentals. Especially he should learn the details of operation of the machine to make it safe for himself and patient. And too he should learn the interpretation of any work that he does and be honest with this science and the patient in not overstepping his limitations. With this knowledge the general physician can give it far more general application than the specialist in roentgenology.

There is a very general trend for many specialists to do the x-ray work in their special fields. This is seen in such specialties as dentistry, genito-urinary, nose and throat, tuberculosis and gastro-enterological work, and as pointed out previously, when any specialist takes on x-ray work he in that degree is generalizing. The utilitarian test of experience has a broader application in the hands of all branches of the profession than it could possibly have if it were limited to the roentgenologist's specialty. For advances in science of course we must look chiefly to the

roentgenologist.

The disadvantages from the standpoint of a pure science of the general practitioner are also evident. The ability to understand the principles of electricity, physics, and x-ray interpretation is a requisite of roentgenology. Any lack of the proper attainment of these sciences brings disrepute on the science and may bring danger to the patient and the physician. Only the recognition of the need for this very important diagnostic and therapeutic agent justifies the demand for its universal availability.

So much for the discussion of this subject from the standpoint of the good of the patient and the good of the science. What about the good of the doctor himself? Every relation of life must be properly met if any procedure is to justify itself. The doctor must be served as well as the patient and science.

The advantages to the general practitioner of having x-ray available are increased, 1. office work, 2. diagnostic skill, 3. income. The increased office work should mean that the practitioner combines with that fine understanding art represented by heritage of our medical forefathers all of modern science to produce a master physician who is both scientist and artist. The x-ray is one of the most potent drawing cards to bring patients to the office. It enables the doctor to save much of the time formerly spent in house visits. The ideal of a real doctor should be to be first a diagnostician. Much of his diagnosis is based on his knowledge of the family history and ability to evaluate psychological characteristics with his sympathetic grasp of human situations coming from a life devoted to going about doing good. If he can add to that the findings of modern science we will begin to have the practice of medicine as it should be. Bacon said that he took all knowledge as his field. The real physician takes all knowledge as his field and then proceeds to live it into the lives of his patients. If the practitioner can add to his art the diagnostic science and x-ray, clinical and microscopical laboratory, scientific and therapeutic devices, instruments for special study, the future of the family physician will be assured. True no one man can be master of all these, but he can acquaint himself with the simple procedures which will make the common diagnoses. For special diagnoses he should depend upon the help of the more specialized branches of medicine. As a result of this increased

volume of work that can be done in office work with increased diagnostic skill, will come a greater financial income. This of course will bring increased financial overhead but that must be adjusted depending upon increased revenue. Any doctor who is too busy to do laboratory and diagnostic work is able to pay for assistance to have it done. The future of the family doctor is in the maintenance of that fine art combined with all of modern science.

SUMMARY

The family doctor as artist and scientist is contrasted.

Roentgenology in general medicine is studied as to its value, 1. to the patient, 2. to the science, and 3. to the practitioner.

Advantages to the patient are: 1. increased availability, 2. diminished expense, 3. generalization of this diagnostic aid.

Disadvantages are: 1. unnecessary use, 2. unscientific use.

Advantages to roentgenology as a science are: 1. increased application, 2. utilitarian test of general experience. A disadvantage is the unscientific use.

Advantages to the practitioner are: 1. increased office (scientific) work; 2. increased diagnostic skill; 3. increased income.

UROLOGY

For this Issue, THOMAS D. MOORE, M.D., F.A.C.S.
Memphis, Tennessee
The Polyclinic

ACUTE AND CHRONIC CYSTITIS AN ANALYSIS OF ONE HUNDRED CASES

At the outset it seems fitting to state that cystitis *per se* occurs infrequently and that it is very often secondary to some co-existing infection in the urinary tract, particularly lesions of the kidneys and ureters. For this discussion there was selected from the files of The Polyclinic 100 case records of patients who presented as their chief complaint those symptoms familiar to all as indicative of cystitis, namely—frequency of urination, urgency and vesical tenesmus. In 50 cases the bladder trouble had been present two months or less, and these have been arbitrarily considered as acute cases. In the remaining 50 the symptoms had been present from two months to many years and these are therefore considered as instances of chronic cystitis.

GENERAL CONSIDERATIONS

The following classification of cystitis for all practical purposes is a very satisfactory one:

Cystitis

Non-bacterial

Chemical

Mechanical

Bacterial

Acute inflammatory

Chronic inflammatory

Tuberculous

Syphilitic

*Yeasts and Fungi**Animal Parasites*

Non-bacterial cystitis may be defined as that type produced by some irritant or physical defect which may present all the classical symptoms of cystitis but without actual infection being present. Substances which may reach the bladder by way of the kidneys, are certain urinary crystalloids—oxalates, urates, phosphates, cystin and other salts—and substances which may have been taken internally by the patient, as cantharides, coal-tar products, and certain urinary antiseptics of which hexamethylenamine is an example. In recent years another common offending agent is freshly-distilled corn whiskey, which when taken in large quantities may produce an intense irritation of the bladder. Substances introduced from without, usually in the treatment of some vesical irritation, may produce a marked non-bacterial cystitis, particularly solutions of silver nitrate, potassium permanganate, bichloride of mercury and phenol, in too strong concentration. Cases are on record in which a cast of the bladder mucosa has been expelled following the introduction of such irritating agents. A few months ago the writer saw in consultation a patient suffering from pneumonia, who, because of urinary retention, had been catheterized by a hospital attendant and a small amount of what was taken for argyrol left in the bladder. Through an error the actual substance injected was pure lysol, which had produced a gangrenous cystitis and precipitated an edematous closure of the vesical neck necessitating suprapubic drainage. On opening the bladder a strong odor of lysol disclosed the nature of the fatal error. Instances of chemical irritation of the bladder are usually easily treated and as a rule rapidly respond to removal of the cause.

Cystitis because of physical factors may

include such causes as foreign bodies, stones, tumors, various pathologic conditions of the pelvis, such as uterine, ovarian and tubal abnormalities, pregnancy, instrumental trauma and retention of urine from any cause—for instance, cystocele. The appropriate treatment of this type of cystitis depends on discovery of the cause and its correction. In any type of non-bacterial cystitis, the promotion of a dilute urine by the ingestion of large quantities of water is important.

With few exceptions the cases under discussion in this paper are of the bacterial type. This condition is much more common in women than in men, probably for the same reasons that pyelitis of infancy is more common in girl babies, due to the proximity of the vesical orifice to an infected field. The anterior portion of the urethra in women is subjected to the constant presence of a bacterial flora, and under circumstances of lowered resistance—trauma, childbirth, etc.—cystitis is readily initiated. It is of interest to note in this series of 100 cases, there were 83 women and 17 men. In many cases of bacterial cystitis at the time of the examination there is no demonstrable kidney infection. Of the 50 cases of acute cystitis, no pus was found in the renal specimens in 31, and of the 50 chronic cases in 37 an occasional pus cell only or none was found. In the acute cases cultures from both kidneys were made in 14 instances, only six of which were positive and in two others tubercle bacilli were found in the smears. Cultures taken in 11 cases of chronic cystitis revealed a positive growth in five, negative in six, and in four others tubercle bacilli were demonstrated in direct smears. The fact that in a large number of cases no renal infection is found does not necessarily indicate that the cystitis is primary. It is highly probable that, at the onset, practically all of these cases would have disclosed definite renal infection, as in most of them there were constitutional symptoms, such as fever and chills, which are practically always indicative of renal involvement. It is generally believed that the initial kidney infection promptly produces a secondary cystitis which is prone to persist for an indefinite period after the renal infection has disappeared.

Retention of urine from any cause is a very common and important factor in the produc-

tion of cystitis. It has been long believed that, in cases of retention of urine which commonly follows the surgical treatment of lesions in the pelvis and abdomen, ordinarily referred to as postoperative urinary retention, cystitis is produced by the use of the catheter. That such belief is erroneous was pointed out by Curtis, who demonstrated that residual urine in surprisingly large amounts occurs in these cases after the function of urination is re-established. In other words, when the patient begins to void the use of the catheter is abandoned and it has been demonstrated repeatedly that micturition in these cases is only partially efficient for the first few days. The stagnant residual urine becomes an ideal culture medium for bacteria and as a result the so-called postoperative cystitis is soon well established. The proper treatment of these cases is obviously to drain the bladder by catheter at least once a day until it is found that the bladder completely empties on micturition. For several years this rule has been followed and instances of postoperative cystitis in our experience have become very unusual. Residual urine from any cause is practically always accompanied by cystitis for the same reasons. The most common example of this is in the partial retention accompanying hypertrophy of the prostate.

There is one type of localized chronic cystitis which is of particular interest and constitutes a disease separated in recent years by Hunner from that group long referred to as irritable bladder or bladder neurosis. I refer to panmural fibrosis, also known as submucous cystitis, or Hunner ulcer. There were seven

instances of this condition in the 100 cases studied. In all the urine was practically negative and the bladder distress was most marked, approaching the severity of symptoms seen in tuberculous cystitis. The misleading feature of these cases is the negative urinalysis which is the rule. This is explained by the fact that the very sensitive chronic inflammatory areas beneath the bladder mucosa involving the entire vesical wall. As the bladder begins to fill this area is stretched and immediately an intense desire to empty the bladder follows. It is not uncommon for patients with this disease to pass their urine every 15 to 30 minutes day and night. The pathology being beneath the surface, so to speak, gives no evidence in the urine of its existence.

Tuberculosis of the bladder is practically always indicative of the involvement of one or both kidneys in this disease. A very early tuberculous lesion of one kidney may make its presence known by an extensive ulcerative cystitis producing frequency and tenesmus in the most distressing degree conceivable. One should always be suspicious of tuberculosis in any case where local treatment seems to make the symptoms worse instead of better. Such response to treatment is typical of this disease. The only effective means of eliminating the bladder trouble is early detection of the offending kidney by cystoscopic study and the surgical removal of the organ. If bilateral involvement is found, the outlook is unfavorable; most of such patients die within a year.

ANALYSIS OF CASES

Sex

Acute Cystitis: Women 41, men 9; Chronic: women 42, men 8.

Duration

Acute: one to 60 days, averaging 20 days.

Chronic: two months to 50 years, averaging five years.

Chills and Fever

Acute: Ten (20%); Chronic: Five (10%).

Nycturia

Acute Cystitis		Chronic Cystitis	
One to five times	30	One to five times	37
Five to ten times	9	Five to ten times	7
Ten to fifteen times	1	Ten to fifteen times	2
Nycturia absent	2	Fifty to 100 times	1
Not stated	8	Not stated	3

Residual Urine

None found in	88
Thirty to 100 c.c.	6
Residual of 180 c.c.	1
Not stated	3

Seven patients dated the onset of symptoms from postoperative retention requiring catheterization.

*Pyuria—Bladder Specimens***Acute Cystitis**

Pus—Grade I —(Less than 20 cells per H. P. F.)	16
Grade II —(20 to 50 cells)	9
Grade III—(50 to 100 cells)	9
Grade IV —(More than 100 cells)	14
No pus present	2

Chronic Cystitis

Pus—Grade I —(Less than 20 cells per H. P. F.)	8
Grade II —(20 to 50 cells)	10
Grade III—(50 to 100 cells)	9
Grade IV —(More than 100 cells)	8
No pus found	14

*Pyuria—Renal Specimens***Acute Cystitis**

Pus—Grade I	4
Grade II	5
Grade III	1
Grade IV	2
Right kidney only	2
Left kidney only	6
Bilateral	3
Renal specimens negative	31

Chronic Cystitis

Pus—Grade I	3
Grade II	3
Grade III	1
Grade IV	6
Right kidney only	4
Left kidney only	5
Bilateral	4
Renal specimens negative	37

Renal Cultures

Positive—11	(B. Coli	7
	(Staphylococci and B. Coli	4
Negative—14		
Tubercle bacilli (Smears)—7	(Right	2
	(Left	4
	(Bilateral	1

Urologic Diagnoses—100 Cases Acute and Chronic Cystitis

Pyelonephritis	11
Renal tuberculosis	7
Renal tuberculosis occluded	1
Pyonephrosis	4
Hydronephrosis	1
Nephrolithiasis	5
Pyelitis of pregnancy	1
Ureteral stricture	2
Acute ureteritis	1
Panmural fibrosis	7
Ulcer of bladder, tuberculous	1
Habit bladder (neurosis)	1
Vesico-intestinal fistula	1
Foreign body (chewing gum)	1
Acute cystitis	26
Chronic cystitis	15
Cystocele	2
Chronic prostatitis	3
Median bar	2
Stricture of urethra (female)	4
Chronic urethritis (non-specific)	6
Chronic urethritis, gonorrheal	4
Urethral caruncle	1

TREATMENT

In view of the fact that the majority of patients with the symptoms of acute cystitis reveal no renal infection at the time of examination, for sometime the following procedure has been employed in their treatment: In women, the presence of pus in the urine is considered of no significance in a voided specimen. If pyuria is revealed in a catheter specimen, the patient is requested to report daily for irrigation of the bladder with warm boric acid solution, following which an ounce of 5 per cent, iodoform emulsion is instilled and the patient requested to retain it as long as possible. In subacute cases and those in which the inflammatory condition does not seem so marked, a 5 per cent. solution of argyrol is used instead of the emulsion. An alkaline hyoscyamus mixture is prescribed for oral administration if the frequency and urgency are very marked. A suppository containing $\frac{1}{4}$ grain of extract or belladonna and $\frac{1}{2}$ grain of extract of opium has a very comforting effect if there is much vesical tenesmus. The use of one such suppository on retiring usually affords a good night's rest. After four or five days of this treatment most patients will experience much relief, at which time an x-ray examination of the urinary tract will be made. Then a cystoscopic study of the kidneys and bladder is made to rule out such possible causes as stones, neoplasms *et cetera*. As demonstrated by Helmholtz, alkalies have no direct urinary antiseptic effect. An acid urine is neutralized and some relief afforded by this means. Walther has recently demonstrated after a painstaking clinical investigation that pyridium by oral administration is a very satisfactory urinary antiseptic. However, concentration of the urine is important in its use and fluids should be reduced to not more than 1,500 to 2,000 c.c. in the 24 hours during the administration of this drug. Cystitis, acute or chronic, associated with renal infection, is very satisfactorily combatted by hexamethylenamine, preferably given intravenously. It is our custom to give one dose of 31 grains daily as long as fever is present. Bumpus has recently stated that nearsphenamine is a very valuable urinary antiseptic and he prefers to use it in about half the dosage commonly employed in the treatment of lues. Our recent experience with this drug has been very encouraging. It is usually given in

courses of five or six doses at four- to five-day intervals, beginning with 0.3 gram and increasing to 0.45 gram for the last three doses. Two patients recently were benefitted by this drug; after prolonged treatment by other measures, they were still troubled with a pyuria and symptoms of a persistent cystitis.

If the patient is not improved by local treatment, tuberculosis is carefully excluded by repeated examination of the urinary sediment for bacilli and the obtaining of ureteral specimens for a similar study, for culture and for guinea-pig inoculation.

It is considered fundamental in the treatment of non-tuberculous cystitis that foci of infection should be searched for and eliminated. The researches of Rosenow, Bumpus, Meisser, Hinman, and others have amply demonstrated the great importance of foci of infection as an etiologic factor in urinary infections. These investigators have reproduced experimentally in animals such lesions as renal calculi, panmural fibrosis, pyelonephritis and cystitis by the injection of certain strains of streptococci obtained from infected teeth, tonsils and paranasal sinuses. In the treatment of the cases discussed in this paper the investigation for foci of infection and their eradication was a routine measure.

It is of interest to note that in this series of 100 cases, renal tuberculosis was found in eight, in six of which it was unilateral and nephrectomy performed. In one case both kidneys were involved and in another instance a tuberculous kidney had become sealed off by a tuberculous stricture of the ureter followed by the deposit of calcium salts and the subsequent clearing up of the tuberculous cystitis. This is an example of occluded renal tuberculosis, so-called autonephrectomy.

In instances of chronic cystitis a urologic investigation is made without any delay and the fundamental causes searched for. In those cases in which the kidneys are normal treatment of the chronically inflamed areas of the bladder, which are particularly common in the base and usually involve the trigone, is carried out by the application of solutions of silver nitrate of varying strength. In women this is most satisfactorily done through a direct endoscope with the patient in the knee-chest position. The inflamed trigone is easily seen and can be readily painted with silver nitrate, up to 10 per cent. strength, by long cotton wound applicators. In this posi-

tion the bladder balloons out readily and the field is not constantly flooded by urine as would occur in the usual recumbent position used in cystoscopic work.

Ulcerations of the bladder often will heal promptly after light fulguration. In one instance a very large ulcer in the right wall of the bladder was proved to be tuberculous on pathologic examination of a small segment from the margin of the lesion and by guinea-pig inoculation with the bladder urine. Specimens from the kidneys on numerous occasions over a period of four years' observation have never revealed any evidence of tuberculosis. The tuberculous ulcer rapidly healed after fulguration on two occasions. This is probably an instance of primary tuberculosis of the bladder which is exceedingly rare.

In four cases a functionless pyonephrosis was found, in two of which numerous stones were present requiring a nephrectomy. The cystitis in these cases promptly disappeared following removal of the kidney. Large renal stones were removed in two cases with preservation of the kidney soon followed by disappearance of the cystitis. In two instances residual urine was present as a result of chronic prostatitis with median-bar formation. These patients were relieved by the punch operation.

SUMMARY

1. The bladder may be considered the alarm box of the urinary tract. Serious lesions of the kidneys often give as their only evidence symptoms referable to the bladder.

2. The syndrome of frequent, urgent, and painful micturition, indicative of cystitis, should be regarded as symptomatic rather than as a disease.

3. Instances of acute cystitis which do not respond readily to local treatment, should have a thorough urologic study and the causative lesion determined.

4. In the clinical analysis of 100 cases, presenting the symptoms of cystitis, there is abundant evidence to indicate that appropriate and rational therapy is dependent upon a complete urologic investigation and diagnosis.

References

1. BUMPUS, H. C., JR.: Personal communication.
2. BUMPUS, H. C., JR., and MEISSER, J. G.: *Arch. Int. Med.*, 1921, XXVII, 326-337.
3. CURTIS, A. H.: *Jour. Am. Med. Assn.*, 1923, LXXX, 1126.

4. HELMHOLTZ, H. F.: *Jour. Am. Med. Assn.*, 1922, LXXIX, 285-286.
5. HINMAN, F.: *Jour. Urol.*, 1921, VI, 299-301.
6. HUNNER, G. L.: *Tr. South. Surg. and Gynec. Assn.*, 1914, XXVII.
7. ROSENOW, E. C.: *Jour. Urol.*, 1921, VI, 285-298.
8. WALTHER, H. W. E.: *South. Med. Jour.*, 1929, XXII, 161-166.

INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*

ETHER HYPERGLYCEMIA

In *The Journal of the A. M. A.* for March 21st, 1931, Dr. Abraham Cantarow and Dr. A. M. Gehret have an interesting article discussing hyperglycemia after ether anesthesia, with particular reference to hepatic disease. They have taken a series of twelve cases, eight of which had disease of the biliary tract and four of which had other conditions, and by making blood sugar estimations every ten minutes during anesthesia they tabulated their results and showed the rise in blood sugar with each ounce of ether administered. Others, notably Mekie and Miller, reported elevation of blood sugar following ether anesthesia of varying duration, the degree of elevation varying from 27 mg. per 100 c.c. in 30 minutes to 47 mg. in 110 minutes, a rise of as much as 62 mg. being noted in some patients after 60 minutes. It is interesting that values as high as 400 mg. per 100 c.c. have been observed in prolonged anesthesia in individuals with normal carbohydrate metabolism.

There are, in the main, two theories that have been advanced in explanation of ether hyperglycemia. Ross and Davis believe it to be due to depression of the internal secretory function of the pancreas (hypoinsulinism), a temporary disturbance analogous to diabetes mellitus. The belief in pancreatic depression as the cause of ether hyperglycemia is not generally accepted. It is more probable that the rise in blood sugar is the result of increased hepatic glycogenolysis due either to the direct action of the anesthetic or to the increased hydrogen-ion concentration associated with ether anesthesia.

The table presented by Drs. Cantarow and Gehret is so instructive that it is here reproduced:

Case	Condition	Icterus Index	Blood Sugar, Mg. Minutes of Anesthesia							Ether Ounces	Rise per Ounce Mg.
			0	10	20	30	40	50	60		
1	Cholecystitis, hepatitis, stones	56	70	69	73	68	80	80	14	0.7
2	Cholecystitis, pylephlebitis	60	150	—	186	—	—	200	207	10	4.7
3	Cholecystitis, stones..	64	118	132	150	187	176	—	—	15	3.9
4	Cholecystitis, stones..	12	111	—	187	200	—	247	—	15	9.0
5	Hydrops of gall- bladder, stones	5	112	144	175	—	198	—	208	19	5.0
6	Cholecystitis	7	94	170	171	192	193	211	—	14	8.4
7	Cholecystitis	9	110	200	206	216	218	—	—	13	8.3
8	Cholecystitis	10	82	—	91	—	—	198	198	15	8.3
9	Gastric carcinoma	3	92	—	144	151	..	162	—	12	5.8
10	Appendicitis	—	100	—	115	152	—	—	—	6	8.7
11	Pyonephrosis	—	116	153	190	212	200	—	—	10	8.4
12	Lymphosarcoma involving pancreas....	—	150	143	172	—	—	—	—	5	4.4

A point of striking interest and significance is the finding that in the jaundiced patients the rise in blood sugar per ounce of ether administered was 0.7, 4.7 and 3.9 mg., respectively, with an average rise of 2.9 mg. per 100 c.c. per ounce, whereas in the patients with latent or no icterus the rise was 9.0, 5.0, 8.4, 8.3 and 8.3 mg., respectively, the average rise being 7.6 mg. per 100 c.c. per ounce of ether. The average rise in the three patients without any biliary tract disease was 7.0 mg. per 100 c.c. per ounce of ether administered.

It is to be noted that patient number 1 in the series died 18 hours after the operation and that the autopsy revealed an extensive acute diffuse necrosis of the liver, no evidence of which had been noted at the operation. The authors then comment as follows:

"These observations emphasize the importance of the glycogen content of the liver in determining the operative risk in patients with hepatic disease. It is evident that the glycogenic function of the liver is impaired in patients with jaundice, even though the commonly employed tests of the carbohydrate metabolic function of the liver fail to reveal any significant disturbance."

"Although the individuals with biliary tract disease without frank jaundice exhibited a hyperglycemic response equal to that of patients without hepatic damage, it must be recalled that they received careful preoperative treatment designed to decrease biliary stasis, combat hepatic toxemia and increase the storage of glycogen in the liver. The fact cannot

be too firmly stressed that all patients with disease of the biliary passages must be regarded as having some degree of hepatic injury. However, even in the absence of jaundice, the added insult of ether anesthesia may, by depleting an already diminished glycogen reserve, result in a stormy convalescence or a fatal issue. It is essential therefore that, so far as is possible, every effort be made to ensure an adequate hepatic glycogen content before operation on such patients."

It has been thought best not to abstract here the details by which Cantarow and Gehret believe in the rise in blood sugar being due to increased hepatic glycogenolysis rather than to a temporary disturbance relative to diabetes mellitus, but a reading of their article is well worth while.

The topic of this paper is one to which not much attention has been given in this country, save in the rather specialized journals, such as the *Journal of Biological Chemistry* and the *American Journal of Physiology*, although contributions are to be found in a few of the foreign publications, notably the *British Medical Journal*. The subject is one which interests both surgeon and internist, and the appearance of the condition is bound to require their closest coöperation. Readers interested in this subject are advised to write either of the authors at 2009 Pine Street, Philadelphia, Pa., requesting a reprint of this excellent article.

GYNECOLOGY OBSTETRICS

For this issue, ROBERT E. SEIBELS, M.D., F.A.C.S.
Columbia, S. C.

A PLEA FOR THE MORE FREQUENT USE OF THE CATHETER IN GYNECOLOGY AND OBSTETRICS

The frequency with which one meets partial or complete retention of the urine in consultation would suggest that physicians in general are neglecting this most valuable diagnostic and therapeutic measure. It is probable that one obstacle to its more general use is the difficulty of keeping rubber catheters in good condition and the frequency with which glass catheters become broken and rendered useless or even dangerous. While the care of the catheter does entail a little more thought and attention than does a blood pressure apparatus, it is equally indispensable.

Pre-operative and Pre-delivery Catheterization: No female should be operated on without being previously catheterized and a specimen examined. The finding of pus cells in a voided specimen is so frequent an occurrence that their presence should indicate nothing on the urinary report. In a catheter specimen the finding of more than 10 cells per high-power field should almost preclude an operation until the urinary tract has been searched for serious infection. The following brief case reports suggest the diagnostic aid rendered by the catheter:

Case 1.—A single white woman, 22. For the last six months, periods have been increasingly scanty and for the last three months absent. She has had good deal of indigestion and occasional nausea with loss of appetite. She was seen in consultation in November, 1922, on account of tumor in the median line filling the lower abdomen to the umbilicus. No fetal heart sounds were heard but a tentative diagnosis of pregnancy was made and the question arose whether she should be kept under observation and what report should be given her family, as the social position of the patient made pregnancy an extremely difficult problem. No history of difficulty of passing urine or of dysuria could be obtained. A routine catheterization to obtain a specimen removed 48 ounces of urine and most of the tumor and the problem immediately became a urological one.

The routine catheterization of patients just before gynecological operations is the practice in most clinics. The point to be considered is that occasionally there is considerable lapse of time between the

catheterization and the operation, when the catheterization is done as part of the pre-operative technic carried out in the patient's room. It is better practice, therefore, to catheterize the patient after the anesthetic is completed as even a few ounces of urine in the bladder is often an embarrassment during plastic operations on the cervix and anterior vaginal wall or in removing deep-seated tumors in the pelvis.

During labor, it is amazing how rarely a patient is able completely to empty the bladder, and I believe this partial retention plays a considerable part in the causation of stretching the anterior vaginal support of the bladder. In spite of the fact that the nurse may report that the patient has voided at frequent intervals in large amounts, I have removed through the catheter as much as 18 ounces of urine in performing the routine catheterization which always precedes major obstetrical operations. This catheterization cannot be left to the nurse, as the pressure of the presenting part may obstruct the urethra and lower bladder, and unless the part is displaced no urine may be obtained, although the bladder may be comparatively full. We have occasionally been apparently faced with the necessity for applying forceps or performing a version in cases of prolonged labor with mid-pelvic arrest, but upon finding considerable urine in the bladder have concluded to try the effect of further pains and have been rewarded by greater co-operation on the part of the patient, and in some cases by prompt delivery. The frequency with which the bladder is emptied during labor cannot be accepted as a criterion of its relative emptiness.

Post-operative and Post-partum Catheterization: After any operation, particularly operations in the lower pelvis and in the vagina, the patient should be catheterized routinely every 12 hours unless she is able to void spontaneously, and it has become our custom to apply the same rule after all deliveries. In postoperative cases and where any possible doubt exists we have further been accustomed to require all patients to be catheterized after voiding as completely as possible and not infrequently have withdrawn from 10 to 12 ounces of urine from a supposedly empty bladder. This practice has not only added materially to the comfort of the patient and reduced the necessity of narcotics but has definitely cut down the morbidity due to urinary tract infection.

Case 2.—Negro girl, 23. Seen in consultation January, 1925. Supposedly a case of impending convulsions 12 hours after the delivery of twins at a labor otherwise normal. The nurse reported that

she had voided frequently and quite large amounts. A routine examination revealed a mass well above the umbilicus with normal blood pressure in a patient who was so restless and uncontrollable that ether was administered to prevent an eclamptic seizure during catheterization. Thirty-four ounces of urine were removed and during the ensuing 24 hours a total of 72 ounces were drawn through the catheter. The patient continued thereafter to have a normal convalescence.

Case 3.—Married woman, white, 28. Seen in consultation February, 1924. Seven days previously patient had had repair of cervical laceration, an anterior colpoplasty and repair of second-degree laceration of the perineum. Since the fourth day after the operation she had averaged more than a grain of morphine a day to control abdominal pain and restlessness. She had voided within 18 hours after the operation and had passed from 30 to 40 ounces every 24 hours. The abdomen was held rather rigidly so that palpation was difficult and apparently was quite painful. Sixty-eight ounces of urine were withdrawn and convalescence was thereafter uninterrupted.

It must be remembered that especially during labor it is sometimes difficult for a nurse to pass the catheter and the report that the bladder is empty must be viewed with suspicion. In our estimation, the use of a glass catheter should be mentioned only to be condemned. A tiny spicule of glass on the end of the catheter can cause extremely serious laceration of the urethra and trigone. This occurred in our private practice and a suit for damages was narrowly escaped. Even a smooth catheter can cause considerable trauma in the presence of a stricture or narrowing of the lumen of the urethra by a presenting part during labor. Urologists disagree as to the value of hot irrigations and the instillation of mild antiseptics in cases of partial paralysis of the bladder. It has been our experience that emptying the bladder twice during the 24 hours after the patient voided, continuing this procedure until less than one-half ounce could be obtained after voiding, has been followed by equally good results whether or not we used irrigations or instillations.

—Medical Building.

"Mandy, I'm sorry to tell you that the parson who married you to Absolom Johnson was a fake and your marriage isn't legal."

"Man, you is crazy! I gives birf to twins jist dis month. Fake? Wish to goodness 'twas!"—*Printers' Album.*

SURGERY

GEO. H. BUNCH, M.D., *Editor,*

NIGHT OPERATIONS

It is ideal for every patient on admission to the hospital to have adequate study so that a proper diagnosis may be made and proper treatment given. Sometimes the patient's condition may be improved by treatment and an inoperable condition be made safely operable. The surgeon, to the best of his ability, should operate when the patient is in the best physical condition to stand the ordeal. A woman who bleeds excessively at menstruation should be operated upon just before the next period when her anemia will be less and her strength more. Unfortunately, however, it is not always the privilege of the surgeon to postpone operation. The condition of the patient often demands early operative relief. Delay, instead of improving his condition, may cost him his life. Hemorrhage must be controlled. Intestinal perforation must be closed. Strangulated hernia must be reduced. In such emergencies prompt decision and early operation save lives that otherwise would be lost.

In a general surgical practice emergency cases are frequent and often interfere with social or business plans. When they come during the day or before bedtime they should take precedence over everything else. However, when they come at night after bedtime, unless the need for operation be obviously imperative, we are of the opinion that operation should be deferred until morning. The surgeon works under physical and mental strain. After a hard day's work he is fatigued and incapable of doing his best work. If he loses sleep he is mentally and physically handicapped for the next day's work. If he loses sleep it is at the expense of the patients to be operated upon next day. They have entrusted themselves to him and he is honor bound to be in condition to give them satisfactory service.

The operating-room nurses are as a rule overworked. Their duties are exacting. They are on their feet much of the time. Their hours are long, they are on call day and night. They are tired and when called upon to prepare for an operation in the middle of the night are mentally and physically below par. Good technique is imperative in modern surgery and technique cannot be safely kept by

girls who are sleepy and tired.

The patient himself, at two o'clock in the morning, is exhausted after hours of suffering and is in poor condition for operation. In most cases his chances are better after a few hours of sleep, secured, if necessary, by morphine.

For abdominal work daylight is superior to artificial light. When the operative field is deeply located and exposure is difficult it may be impossible to see pathology or to control bleeding by poor light. An additional handicap to night work in summer in this climate is the menace of insects and small green bugs that are attracted by the bright light and come through the ordinary wire window screen almost at will. To keep them out the window sash must be kept down when the lights are on. An operating room here on a hot summer night with the windows down and the sterilizer going is such an inferno that good work in it is difficult.

Acute appendicitis is the most common condition in the abdomen for which emergency operation is done. However, appendicitis, unless cathartics have been given at the onset of the attack, is not of sufficient urgency to demand operation after bedtime. The patient is better and more safely operated upon early next morning. It is surprising how many cases of acute appendicitis, after having lasted a day or two, are admitted into the hospital after midnight for immediate operation. When the hysteria for immediate operation is tempered with common sense one finds very few cases in which the good of the patient and of all concerned is not best served by delaying operation until morning. An analysis of night operations would undoubtedly show a high percentage of wound infections, of incomplete removal of pathology and of generally poor results.

WOMEN AT THE A.M.A. MEETING,
PHILADELPHIA, JUNE 8-12, 1931

(MRS. WALTER JACKSON (CORINNE KEEN) FREEMAN,
General Chairman)

The Woman's Auxiliary to the American Medical Association will be in charge of all entertainment of women visitors. The Roof Garden of the Bellevue-Stratford Hotel has been enjoyed for the period of the convention. All women's activities will centre in this hotel—registration, meetings, luncheons and supper dance, and all excursions will start

from the Broad Street entrance. Invitations and tickets must all be procured in the Roof Garden *in advance*, as nothing but programs will be obtainable elsewhere. The list of sponsors will be printed in the program. The chairman of the Women's Hotel Committee is Mrs. Frederick S. Baldi, 2117 Porter Street, Philadelphia, who will be glad to make any desired reservations.

The convention will open with a subscription buffet luncheon in honor of all National Auxiliary Presidents from Mrs. Red to Mrs. McGlothlan, immediately followed by 3 round-tables of 35 minutes each. The subjects will be:

1. Programs for County Auxiliary Meetings.
2. The Technique and Value of a Committee on Public Relations.
3. History and Archives.

A new and helpful feature will be a Question and Suggestion Box to which we beg all to contribute ideas.

The regular business sessions will be held on Tuesday and Wednesday mornings. National Chairmen will be allowed 10 minutes for their reports, State Presidents 3 minutes. Reports to be printed may be as long as desired (in reason), but let no one imagine these limits an idle jest. Nor will the hours announced on the program be found to mean "about".

Thursday morning Mrs. McGlothlan will announce her committee chairmen and outline her plans for the coming year, and the subjects in the Question Box will be discussed.

Except Monday a variety of excursions is offered to suit all tastes, all physiques, and all weathers. They include bus trips to Valley Forge and to "Longwood," the estate of Mr. and Mrs. Pierre S. du Pont, a boat trip on the Delaware, and visits to the Fairmount and Rodin Museums and to the Historical Society of Pennsylvania. The Museum authorities are delighted to provide decent service for those desirous of more than a passing glance at their treasures, and the Historical Society will arrange a special exhibition for the week, including portraits, prints, and engravings, documents, silver, etc. from its unsurpassed collection of Americana.

Wednesday the big Auxiliary luncheon and a beautiful musical program, the gift of the Delaware Auxiliary. In the afternoon the Philadelphia County Medical Society invites

the women to be their guests on a bus trip— (a 10 minute stop at Independence Hall) Fairmount Park and Germantown to "Stenton", where the New Jersey Auxiliary invites us all to tea. "Stenton", the home of James Logan, Penn's friend, Secretary of the Colony, still stands just as it was built in 1728, the furniture of the period, the garden laid out as described by contemporaries. On Wednesday evening the Pennsylvania Auxiliary invites all visiting ladies to a reception in the Chinese Rotunda of the University Museum, a setting probably unsurpassed in any museum anywhere.

The County Medical Society invites all members of the A.M.A. and the visiting ladies to be their guests at a supper dance in the Ball Room of the Bellevue, following the big meeting of the A.M.A. on Tuesday evening at the Academy of Music. The President's ball at the Benjamin Franklin Hotel on Thursday evening, to which all are invited, will close the formal festivities.

On Friday morning there are offered a tour of Wanamaker's with luncheon in the Crystal Tea Room, or an all-day bus trip to Atlantic City, where the New Jersey Auxiliary will meet them for luncheon at the Claridge.

LACK OF TRAINING OF NURSES IN COMMUNICABLE DISEASES

At least six out of ten nurses, of a group of more than 15,000 who were graduated in 1929, received no practical experience in a communicable disease service during their entire training.

About two out of three schools, or 713 of those studied, do not have such a service, nor do they affiliate with others to give their students this type of training.

These facts were gathered in a recent study made by the Committee on the Grading of Nursing School, 370 Seventh Avenue, New York City, to determine the kinds and amounts of practical experience student nurses are getting in training to fit them for the work they will be called upon to do as practicing graduates.

They have an added significance because physicians complain of a lack of nurses for their contagious patients, and nurse registries state that many nurses are unwilling to take such cases. It would seem that this condition exists, in large measure, because the majority of nurses have had no adequate training in caring for communicable diseases.

Notes On Diagnosis and Treatment

A Column Conducted By

THE STAFF OF THE PARK VIEW HOSPITAL
Rocky Mount, N. C.

For this issue, BYRD CHARLES WILLIS, M.D.

In suspected cases of malignancy of the abdomen or chest it is wise to examine for the sentinel gland just above the left sterno-clavicular articulation. If the gland is palpable it should be excised and submitted to microscopical study.

Comparatively recently we had two obscure abdominal cases in which the diagnosis was made. One patient had a tumor of the left kidney region and one a carcinoma of the stomach. The tumor of the kidney proved to be a hypernephroma with metastasis to the sentinel gland. Many cases of malignancy can be cleared up by finding small subcutaneous nodules or enlarged lymph glands in the inguinal, cervical, or axillary regions, by making a biopsy and submitting the suspected tissue to microscopical study.

I well remember two cases of melenoepithelioma in which the original small lesion had been removed months before and forgotten. These cases were directly diagnosed by frozen sections and microscopical study of the tissue. A careful search of the body of all patients should be made for enlarged glands or subcutaneous nodules, otherwise the diagnosis of many obscure lesions will be overlooked.

Recently a nodule of the tongue was removed with the clinical diagnosis of carcinoma which microscopically proved to be actinomycosis.

Tincture of nux vomica 5M, dilute hydrochloric acid 10 M, glycerine 30 M, and compound infusion of gentian to make 1 ounce, is an excellent stimulant to the appetite when taken 15 to 30 min. before meals.

Never make a diagnosis of pregnancy or other tumor of the abdomen without first catheterizing, and remember that voiding, even copious voiding, is no proof that the bladder is being emptied.

Be on the constant lookout for atypical cases of pellagra. A large proportion of pellagra is going unrecognized.

NEUROLOGY

For this issue, J. A. NORTON, M.D., Conway, S. C.

THE FAMILY DOCTOR AS A NEUROLOGIST

Let me admit right at the outset that I am submitting this paper rather to organize my own ignorance of the subject, and should my good friends, the specialists, convict me on proof of this paper of lack of scientific knowledge, instead of crying, "Mea culpa," I would calmly point to that slogan so faithfully and long emitted by said specialists, a family doctor is a physician who knows less and less about more and more the longer he lives, and he usually is around in the way a long, long time.

What is neurology and what are some fundamental concepts regarding its special investigation by the family doctor?

Neurology, in scientific medical parlance, is that part of medical science which deals with the knowledge of, and diseases of, the nervous system of the human being. The family doctor, whether an improvement or not, defines neurology as the search for any inherited or acquired fault or disease in the human individual's bodily means of inter-communication, self-control or environmental contacts. It is my hope that this definition will clarify somewhat my claim that the practice of medicine is not so much a pathological research as a factor in living life, a factor in understanding some of the outstanding values of such living, a factor in the realization that the definite goal of medicine is not health but the ability of "living your life understandingly, wholeheartedly and upstanding."

Neurological diagnosis depends, of course, upon the proper interpretation of symptoms, whether these are brought out by clinical or laboratory method. And this proper interpretation depends largely for the family doctor upon his experimental and experiential culture. Right here is where for us neurology proves either a bane or a blessing, or both, for it is distinctively individual, and each case must be studied carefully, experimentally and with a much experienced background; and above all else it must be studied altruistically. The work in this field is antagonistic to both standardization and mass production.

We have been taught that symptoms are signs of disease, but if this were so, medicine

would be practically simple. Sometimes, symptoms *are* signs of disease, but sometimes they are not. There is a new hypothesis that is now gradually disseminating that symptoms may not be signs of disease, but rather signs of a faulty bodily reaction to the stimuli of life caused by the presence of disease. To use a hackneyed illustration, typical symptoms of indigestion may be caused by amertopia, by nerve fault, by cholecystitis. The physical condition of the stomach is perhaps entirely normal, but its reaction to the stimuli of food is altered by the presence of disease elsewhere. This condition is an especially prevalent one in neurology, where for instance uncongenial relations at home will give you an acute or chronic attack of neurasthenia, or a dental or colon focal infection will present for your consideration a persistent sciatica or other neuritis.

If these data are true, may the family doctor digress here for just a moment and point the finger of inquiry at the consequent absurdities of medical specialism. Can we divide the human body into sections and tell one man, "Here, you treat this part only," and to another man, "Here you treat that part only," and expect to get anything but chaos? Certainly not. Yet, ostensibly, we have that very condition in practice, and we do not seem to have so much chaos. I can easily point out the reason: nearly every one of these self-styled specialists is doing a general, a very general, practice from alopecia areata right on down to *unguis incarnatis*. A little thought will tell you that the only real specialist is one doing nothing whatever but referred or consultation work, assisting the family doctor. The largest factor in "specialism" other than this is rank commercialism.

The basis of the classification of neurological disorders is functional and organic, depending upon the absence or presence of a demonstrable physical lesion. The functional disorders are the hysterias, neurasthenias, neuroses, epilepsies, etc., while the organic comprise the gamut of infections and sequelae, chemical poisonings, and tumors. Functional disorders are not demonstrable, while organic affections are demonstrable by scientific laboratory methods.

The family doctor should have some easily-made tests for the differentiation of the func-

tional and organic troubles; but, alas! the specialists have not furnished us with any such. Contrariwise, it would almost seem that some effort is made to burden the issues with an excess of scientific amplitude that beclouds the understanding. But the family doctor has worked out a rule-of-thumb method, that, while not exactly accurate, does serve his patients and himself reasonably well.

By his particular and peculiar knowledge of the patient's family and personal history, added to by careful bedside and simple laboratory examinations, and the results considered in the light of an intimate knowledge of human nature, he is usually able to make a pretty fair differential, and to outline a fairly satisfactory method of treatment.

I can outline the treatment in regular textbook style—treat symptomatically. Which brings up the question, what are symptoms? and we are right back where we started from, and I thank you for a pleasant trip.

The main factor in treatment is undoubtedly the physician's knowledge of human nature, which is, as you know, only the common, every-day term for the high-brow word, psychology. If you understand human nature—and you do if you understand yourself—you can pretty satisfactorily manage these cases.

Anyway, if you wish to know something of neurology, allow me to commend to you my friend Pope's advice:

"Know thyself, presume not God to scan,
The proper study of mankind is man."

Beware

A salesman has been victimizing Missouri doctors. Representing himself to be an agent for *Harpers* and other magazines, and with credentials which appeared to establish his *bona fides*, he obtained checks made payable to "Harper Brothers Publishing Company." The checks were cashed and the swindler disappeared.

Use your office for the conduct of *your* business. Don't let salesmen *sell* you anything. If you haven't intelligence enough to realize your needs and *buy* things of your own volition, rather than *be sold* them by one whose sole interest is in making a sale and a commission, get yourself committed get yourself committed as legally irresponsible before your home and savings are taken from you.

THE AMERICAN PROCTOLOGIC SOCIETY will hold its thirty-second annual meeting at Philadelphia June 7th, 8th and 9th, 1931.

Headquarters—The Bellevue-Stratford Hotel.

Dr. E. H. Terrell of Richmond, Fellow of the Tri-State Medical Association, will speak on "Selecting the Treatment for Hemorrhoids."

Regular practitioners, members of the American Medical Association, and not affiliated with medical groups admitting those not members of the A. M. A. are cordially invited to attend the scientific sessions. Physicians fulfilling the above requirements who are especially interested in Proctology are eligible to submit applications for Associate Membership after attending at least one meeting of the Society, and one A. M. A. section meeting.

CURTICE ROSSER, M.D., F.A.C.S.,
710 Medical Arts Bldg.
Dallas, Texas.

MEDICAL HISTORY NOTES

(Tichenor, G. H., Jr., New Orleans, in *Western Medical Times*, April, 1931)

Sir Henry A. Blake, governor of Ceylon, announced at a meeting, years ago, of the Asiatic Society that Singalese medical books of the sixth century described 67 varieties of mosquitoes and 424 kinds of malarial fever caused by mosquitoes. Dr. Josiah Nott, sometime professor at Tulane Medical College, published an article in the *New Orleans Medical and Surgical Journal* in 1848, "The Origin of Yellow Fever," in which he indicted the mosquito for the transmission of the disease. Mexico was studying anatomy and surgery 86 years before Hunter opened the first school of dissection in England. The University of Mexico was opened 1553 and took up the study of medicine and surgery 204 years before Harvard.

ODE TO A LAUGHING CADAVER

If I could laugh as thou dost laugh, and laugh at all
I see—

Could laugh at Life and Death and Hope and Dread,
I'd count it as my wisdom, for in this I envy thee—
I'll not disdain at learning from the Dead.

Thou laughest at my labor, as I cut thy muscles free:
Thou laughest at my forceps and my knife;
For thou art past the tempests of the soul that
shatter me—

Art cured of all the madness known as Life.

Then let me shake my soul away as free as thine can
be,

And stand a moment, partner of thy mirth,
Thy arm about my shoulders, ere I cut it off of thee,
And let us laugh together at the earth!

—Jenkins.

Clinical Comment

A Column Conducted By
L. G. GAGE, M.D., Charlotte, N. C.

DISORDERS OF EMOTIONAL ORIGIN

Disturbances of function resulting from disordered emotional states probably bring more grist to the physician's mill than all other causes combined.

If the personal physician is to satisfy the demand that brings him into existence, which demand arises from the desire of people to be relieved from suffering, he must be prepared to recognize such cases when they occur and to know how to handle them to the end that the patient is relieved of his discomfort.

A diagnosis of disturbed emotional state should never be made by elimination. There are too many known and unknown conditions that cannot be eliminated. Such a diagnosis should be a positive one, based on the history of symptoms and physical findings. It is also necessary to keep in mind that such a condition may, and frequently does, exist in conjunction with some disease based on organic changes. It is just as important to recognize it here as though it were alone the cause of the patient's complaints.

The first step in making a diagnosis in these conditions is to decide whether or not the disorders complained of could be caused by emotional instability. At the present time the disorders that may be caused either directly or indirectly by emotional disturbances are not well catalogued or well recognized; but, in the present state of our knowledge and given a disorder that may be so caused, we must next establish the fact that the particular individual is one who is susceptible to emotional disturbances. The characteristics of such an individual are too varied to attempt listing here. The next step in the diagnosis is to dig up a set of circumstances that will account for a present disturbed emotional state. This is frequently the hardest part of the procedure and the one that is most frequently neglected.

Having established a positive and not a negative diagnosis it is then necessary to relieve the patient. While this is not always possible it is more frequently possible than accomplished.

In order to do anything for this type of patient it is necessary that the patient have

absolute confidence in the physician and be able to accept without a doubt the pronouncement in regard to his condition.

Having obtained the patient's confidence different therapeutic procedures consist of: 1. A careful and rational explanation of the origin and mechanism of the symptoms, and the necessity of correcting the emotional background. This is often quite sufficient to give relief, particularly in those patients who have transferred their anxiety from the original cause of the upset to their own ill health. 2. Other cases will require complete freedom from responsibility and complete supervision which can be provided only by institutional treatment. 3. A third method which is probably most often used is to give the patient's disorder a name without going into details as to the origin and by means of suggestive treatment with drugs and other therapeutic agents effect relief by suggestion. While this method works it does not improve the position of the patient in regard to future disturbances. A combination of all three of these methods is probably best.

IS SYPHILIS A EUROPEAN DISEASE, OR HAS IT BEEN INTRODUCED FROM OUTSIDE?

(Levy, D. M., in *Urologic and Cutaneous Review*, April, 1931)

We have shown:

- (a) That before 1500, syphilis was unknown in Europe.
- (b) That it was brought to Spain from America by the men of Columbus, and thence spread over Europe by the agency of the troops of Charles VII.
- (c) That syphilis was known in America long before 1500.

Hence we deduce that lues was introduced into Europe from outside, and that its source of origin was America.

A woman arriving in this country after a short visit to the continent was asked the usual question by the custom official at the landing port: "Anything to declare, madam?"

"No," she replied, sweetly, "nothing."

"Then, madam," said the official, "am I to take it that the fur tail I see hanging down under your coat is your own?"—*Tid-Bits*.

The French official was the epitome of courtesy. When the *grande dame* appeared for a passport, he could not hurt her, despite a disfigurement(so he wrote:

Eyes—Dark, beautiful, tender, expressive (but one missing).—*Boston Transcript*.

In Memoriam
Dr. John C. Montgomery
1869-1931

He left us suddenly, an urgent early morning call and he was gone. So full of life and action, he rests in peaceful, dreamless sleep.

For forty years he walked among us. Three generations felt the touch of his ministering hands. He was a general practitioner or as he said "a regular family doctor." He loved the daily visits in the homes of his patients. He was a genial doctor and his cheery manner in the sick room did good like a medicine. He looked on the bright side of circumstances. If there was no bright side, he shined up one of them with a few touches. He was sympathetic and helpful with his patients and they clung to him in every great time of need.

In the profession, he had a host of friends, for he always showed himself friendly. At any gathering of the doctors, he was at home and made others feel the same way.

He was a jolly companion on a tedious trip and a most efficient shock absorber along the road of every-day living.

He was a society man and took an active part in the Charlotte Academy of Medicine which was revived under the name of the Charlotte Medical Society, which in turn merged into the Mecklenburg County Medical Society.

Abroad, he was an Honorary Fellow of the State Society, a member of the Southern Medical Association and the American Medical Association.

For many years he specialized in anesthesia along with his general practice. He had his own way in giving ether by the drop method which was both safe and satisfactory. He did not think much of the newer methods of local, regional and spinal anesthesia, but considered that ether by the drop could hardly be improved upon in a major operation.

As a man he was a prince of good fellows. In spite of these democratic days of leveling down, he stood above the rank and file of men. He was one of those meet-him-once-and-know-him-the-rest-of-your-life kind of people.

He was a business man as well as a doctor. He got the fee if it was possible and oftentimes when it was not. He knew the value to the patient of paying the doctor. Many of us overlook this important matter. He understood that a patient's convalescence would be more rapid and he would stay well longer if the fee was paid promptly.

We miss him sorely as a friend, as an associate, as a counselor and as a helper in the steep places.

"Silent here—for love is silent gazing on the lessening sail;

Silent here—but far beyond us many voices crying,
'Hail.'"

THE CONTROL OF VENERAL DISEASES IN MISSISSIPPI
WITH COMPETENT TREATMENT BY THE
GENERAL PRACTITIONERS

(Hays, H. R., in *New Orleans Medical and Surgical Journal*, March 1931)

The problem of control is up to the general practitioners to whom the cases first present. Only by some provision which will allow every case, no matter what his financial standing is, to become treated to a successful cure, can we expect to make headway in the control. Financial arrangements should be made with the end in view of arresting the patient's disease rather than making the basis of charge so much per visit.

Ample appropriations should be secured for the Public Health Service which would provide enough assistance for the indigent, and a corps of field workers which would get the patients into the hands of physicians and do the follow-up work necessary.

TRANSMISSION OF SYPHILIS BY BLOOD TRANSFUSION
(Polayes, S. H. and Lederer, Max, in *The American Journal of Syphilis*, January 1931)

Ten cases of this nature reported in the literature since 1917 are reviewed and an additional case of an infant developing syphilis following a blood transfusion is described by the writer.

Difficulties are encountered in determining whether or not the blood of a given donor is infectious. Cases are cited to prove that neither the absence of clinical signs nor a negative blood Wassermann reaction entirely excludes the possibility of the existence of syphilis in the donor.

It is urged that family donors should submit to the same rigid physical and serological examination as professional donors, because in a large percentage of the cases family donors were responsible for the transmission of syphilis to the recipients.

SOUTHERN MEDICINE AND SURGERY

OFFICIAL ORGAN OF { Tri-State Medical Association of the Carolinas and Virginia
 { Medical Society of the State of North Carolina
 JAMES M. NORTINGTON, M.D., *Editor*

Department Editors

JAMES K. HALL, M.D.	Richmond, Va.	<i>Human Behavior</i>
CHILDREN'S CLINIC GROUP	Black Mountain, N. C.	} <i>Pediatrics</i>
CHILDREN'S HOSPITAL GROUP	Charlotte, N. C.	
W. M. ROBEY, D.D.S.	Charlotte, N. C.	<i>Dentistry</i>
EYE, EAR & THROAT HOSPITAL GROUP	Charlotte, N. C.	<i>Eye, Ear, Nose and Throat</i>
THE BARRET LABORATORIES	Charlotte, N. C.	<i>Laboratories</i>
O. L. MILLER, M.D.	Gastonia, N. C.	<i>Orthopedic Surgery</i>
HAMILTON W. MCKAY, M.D.	} Charlotte, N. C.	<i>Urology</i>
ROBERT W. MCKAY, M. D.		
J. D. MACRAE, JR., M.D.	Asheville, N. C.	<i>Radiology</i>
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.	<i>Dermatology</i>
PAUL H. RINGER, M.D.	Asheville, N. C.	<i>Internal Medicine</i>
GEO. H. BUNCE, M.D.	Columbia, S. C.	<i>Surgery</i>
FREDERICK R. TAYLOR, M.D.	High Point, N. C.	<i>Therapeutics</i>
HENRY J. LANGSTON, M.D.	Danville, Va.	<i>Obstetrics</i>
CHAS. R. ROBINS, M.D.	Richmond, Va.	<i>Gynecology</i>
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.	<i>Neurology</i>
VARIOUS AUTHORS		<i>Historic Medicine</i>
JAMES ADAMS HAYNE, M.D.	Columbia, S. C.	<i>Public Health</i>

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

DUKE, DEDICATED

Attendant on the recent meeting of the Medical Society of the State of North Carolina was the formal opening of Duke University. The occasion, the sights and the ceremonies were alike impressive. The thought of what could be done with the many times multiplied millions has engaged the attention of the thoughtful of the State and section since the provisions of Mr. James B. Duke's will were made public. The magnificent buildings, of such material and in such arrangement and surroundings as to delight the esthetic sense, tend to impress with some feeling of awe. The ceremonies, participated in as they were by officials of so many of the great universities of our Country as to make probably the largest assemblage of presidents of institutions of learning ever to appear on one stage, could not fail to thrill those to whom State pride is a dear and cherished thing—thrill even to the point of taking us back for an hour or two to the early post-

war years when we allowed ourselves to be deluded into feeling and boasting that ours was the third or fourth richest State in the Union, and that affluence had come to stay.

But the illusion could not last. Our Capital City was too near, whence came reverberations from halls in which our sorely-tried representatives were frantically seeking funds with which to pay the modest salaries of our school-teachers, and the other bare necessities of a necessitous, "economy" government. These very real and insistent things fetched us back from our brief sojourn in the times when every man was rich today and going to be richer tomorrow, to the hard, stern, mean situation by which we are confronted, surrounded—many of us engulfed—in this year of our Lord 1931. Readily this cast of thought amid such scenes of splendor brought the question, *Qui bono?*, with special reference to the medical school and hospital.

No one can doubt that many lives will be saved by the ministrations made available

through the superb *personnel* and *materiel* here provided. We can confidently look forward to the coming out from the wards and laboratories of Duke of valuable additions to our diagnostic and therapeutic armamentarium—even as these have come from the other medical institutions of the State. And it is to be preferred that our medical students' living expenses go to the support of home industry. Our understanding is that fees are higher in the Medical School of Duke than in most of the schools of the Country. As to providing that more doctors be graduated, it is doubtful if that will advantage the public or the profession. The plan to give the medical course in three calendar years represents an advance of great consequence.

There are many of us, though, who are fearful of the power of scores of millions of dollars. In this there is no suggestion of impugning good faith. History is replete with instances of the direst calamities being inflicted with the best of motives. Bigness is a menace *per se*. By its very size and weight an ocean liner with engines stopped gets beyond the control of the tugs trying to dock her and destroys the pier which is her necessity. Millions and billions convey to us no ideas unless we translate them into everyday symbols. If a billion dollars had been got together 500 years before Christ and a thousand dollars had been taken from that pile each day since, there would remain more than 100 millions. Figure it out for yourself; then ponder it—and that 100 millions are a tenth of a billion!

It is a fact little questioned that a wise and benevolent autocracy is the ideal form of government. But how keep it wise and benevolent? Particularly when the spirit of our age is, perhaps as never before, one of adulation and subservience to the possession of money. Where is the evidence; Everywhere. Specifically: (1) The half dozen trusts that buy tobacco on our markets agree among themselves not to pay enough for the crop to meet the cost of growing it; (2) in the very same year these trusts announce the largest earnings (*gettings* it should be, they are *not earnings*) in their histories, (3) and George Washington Hill, president of the American Tobacco Company, is paid, in salary and bonuses 3 millions of dollars for his services that same year; and (4) the facts

that (a) the public generally takes it as a matter of course and (b) *the growers, most of them strong men, many of them ex-soldiers, cravenly submit*. That \$3,000,000, for which G. W. Hill has no more need than a man with a 2-pounds steak on his plate has for two more at the same meal, would have yielded to 5 thousand of the farmers of North Carolina, whom he and his partners so shamelessly robbed, the means of paying their debts, feeding and clothing their children and keeping them in school—and kept many a one from despair even to suicide! Maybe the 3 millions are not lost to the people permanently. A fitting benefaction (!) would be larger and better asylums for orphans and the insane—and burying grounds!

All along some of us have had fears that on hospitals which receive aid from the Duke Endowment pressure would at times be brought to bear in the interests of the Medical School. We have been assured that these two fingers of the same hand would operate entirely independently, the one of the other. This is as it should be. Certainly there is no reason why patients, the victims of certain diseases being given special study at the Duke medical school should not be sent to the school for that purpose; indeed sound reasoning is that this should be done—*provided*, always, it is with the free consent of the patient and his or her doctor, and that no element of compulsion, direct or indirect, enter into the transaction.

Loud in the land is the voice of State Medicine, the demand that doctors be employed on salary by the State just as are public school teachers. The Duke influence, in all its ramifications, can powerfully influence public sentiment and private votes; and, without resort to the ballot-box, the private practice of medicine can be made less remunerative and more difficult and uncertain.

We earnestly trust that the great Duke influence will ever be exerted for the common good; we pray that it will never hear a call to undertake any plan of medical evangelization, but will take a place alongside the University of North Carolina and Wake Forest College in the leading of our movements for good in medicine.

Eternal vigilance is the price of the liberties of a profession as well as of a people.

SPINAL ANESTHESIA

The development of spinal anesthesia is one of the greatest advances which has been made in the field of anesthesia since ether was first used. It is the safest and best method of anesthesia for operations below the diaphragm. Even chest and head surgery can be done with safety with this form of anesthesia by those who are familiar with its possibilities. Not only has it enabled the surgeon to reduce the mortality, but it has greatly lessened the number of postoperative complications.

Perfect relaxation is obtained without any danger to the patient and without any bad after effects. In abdominal surgery many operations can now be done without the use of any packs at all, thereby preventing traumatism of the abdominal viscera by handling and by packs. This eliminates to a great extent postoperative distress from gas formation, ileus and adhesions. Operations can be performed more rapidly and more satisfactorily and with less discomfort to the patient than with any other anesthesia, because of the perfect relaxation and freedom from pain and shock.

The statement sometimes made by those that are not familiar with its use that it causes a strain upon the nervous system and leaves the patient nervous and upset is without foundation. It has no effect whatever upon the nervous system. Patients who have had operations under general anesthesia and later operations under spinal anesthesia have stated almost without exception that they prefer the spinal anesthesia.

Certain complications have been reported following the use of spinal anesthesia, but analysis of these show that they are complications which may follow any operation. Such complications may even occur in patients who have had no operation at all and for which an anesthetic is not responsible in any way whatever. Carefully compiled statistics of thousands of operations done under spinal anesthesia show definitely and conclusively that there are fewer complications than after any other anesthesia.

The contraindications to its use are few. The field is gradually enlarging. In very young children and in the aged, it is equally useful and safe.

It is true that disasters have occurred but they are due, not to the type of anesthesia,

but to its use by those who are unskilled in the technic of its administration. It may be that in some instances some unforeseen thing may have happened which was beyond human control. The anesthetic, of course, should not be blamed for this.

The most meticulous care is necessary in every detail of its administration. The selection of the particular drug to be used, the dosage, and the site of puncture are all of vital importance, and must be varied according to the patient and the operation. One who has not been trained in the use of spinal anesthesia should never attempt its use. To do so might bring into disrepute a method which is the simplest, safest and best anesthesia for the field in which it is indicated.

Several years ago I began to use spinal anesthesia in selected cases. As the field enlarged it was used more and more often. During the past two years we have used spinal anesthesia in more than 2500 cases, the ages of the patients ranging from four to 88 years. We have never had any bad results from the anesthetic itself in any case. Even among patients who were classed as bad risks, it has been used with the greatest satisfaction both to ourselves and to the patients.

—J. W. Davis, Statesville, N. C.

DR. WILLIAM E. WARREN OF WILLIAMSTON

"Cousin William is dead" I said to one of his large circle of "cousins" at the meeting of the Medical Society of the State of North Carolina at Durham: "It can't be true," said he. "Cousin William is dead," I said to another of this favored group at Greenville for the session of the South Carolina Medical Association three weeks later: "I don't believe it," said he.

But, sadly, it is true. He whose geniality, warm-heartedness and loveliness had so impressed so many of us at sessions of the Tri-State, the Seaboard and the State societies as to become to us "Cousin William," will foregather with us no more.

In his altogether charming *Memoirs*, Dr. Victor Vaughan beautifully set forth his own way of choosing his cousins. Dr. Vaughan would have taken our Cousin William to his bosom.

Dr. Warren was a family doctor, and he took no stock in the bemoaning prophecies of the passing of the family doctor. He had

first-hand knowledge of what the real family doctor can be to, and do for, his people; and this made him serenely sure that the family doctor would last as long as time lasts, to the confusion and disappointment of every generation of prophets of his doom.

In Williamston and Martin County he went about daily spreading health and happiness. They mourn him as their doctor, as a man, and as a citizen. No one can take his place in our medical meetings. While there remain two of those who knew them, the kindred spirits, "Cousin William" and "Dr. Cy," will be invoked when we come together for the renewing of our strength.

THE DURHAM MEETING

Our invited guests filled out the excellent program contributed by our members. The Duke Medical School's many and elaborate courtesies contributed largely to the enjoyment of the occasion. The president made a forceful appeal in the interests of close harmony in the ranks and a united front against all hostile agencies, and paid splendid tributes to past-presidents, his fellow-officers and to the Duke Medical School.

The new officers are men of forcefulness and under their guidance the affairs of the society can be counted on to continue their forward move. This journal hopes that the medical societies of counties in which there are very few doctors, and in which there are no active societies, will be combined in such groups as to make available to every reputable doctor in the State the privileges of an active county medical society. It also hopes that this administration will take an active stand in the encouragement of regular doctors all over the State to give quacks—either the common garden variety or the interlopers—no rest by day or by night, to swat them lustily and continuously at their every appearing, until it becomes so well known throughout the land that our doctors have the sense, the interest and the courage to chase all such rascals out, that they check North Carolina off their calling lists.

President Stevens gives us a foreword in this issue. As soon as he has shaken down well into his seat, made observations and taken soundings (hard to do from a seat), he will begin sending in a series of writings for our good and behoof.

SOMETHING NEW IN TESTIMONIALS

O. Henry wrote an entertaining story and called it "Next to Reading Matter." Its basis was the advertiser's axiom as to the value of space next to reading matter, and it dealt with some sort of cough lozenge.

The Honorable Willis Smith, Speaker of the House of Representatives of the State of North Carolina, goes the Greensburgher one better. He inserts an advertisement of a nostrum *in* the reading matter.

Quoting from *The News & Observer*, Raleigh, May 7th:

"There is something to this casting bread upon the waters," observed Speaker Willis Smith, apropos a nice thank-you speech for a suit-length of Biltmore homespun presented him on behalf of the Biltmore industries by Representative Howell of Buncombe.

Mr. Howell called attention to the fact that the Biltmore industries were founded by the late E. W. Grove, and the gift was from his son-in-law, now their director.

"As a child in the eastern part of the State," observed Speaker Smith, "I took many a bottle of Groves Tasteless Chill Tonic. Now I'm getting my reward."

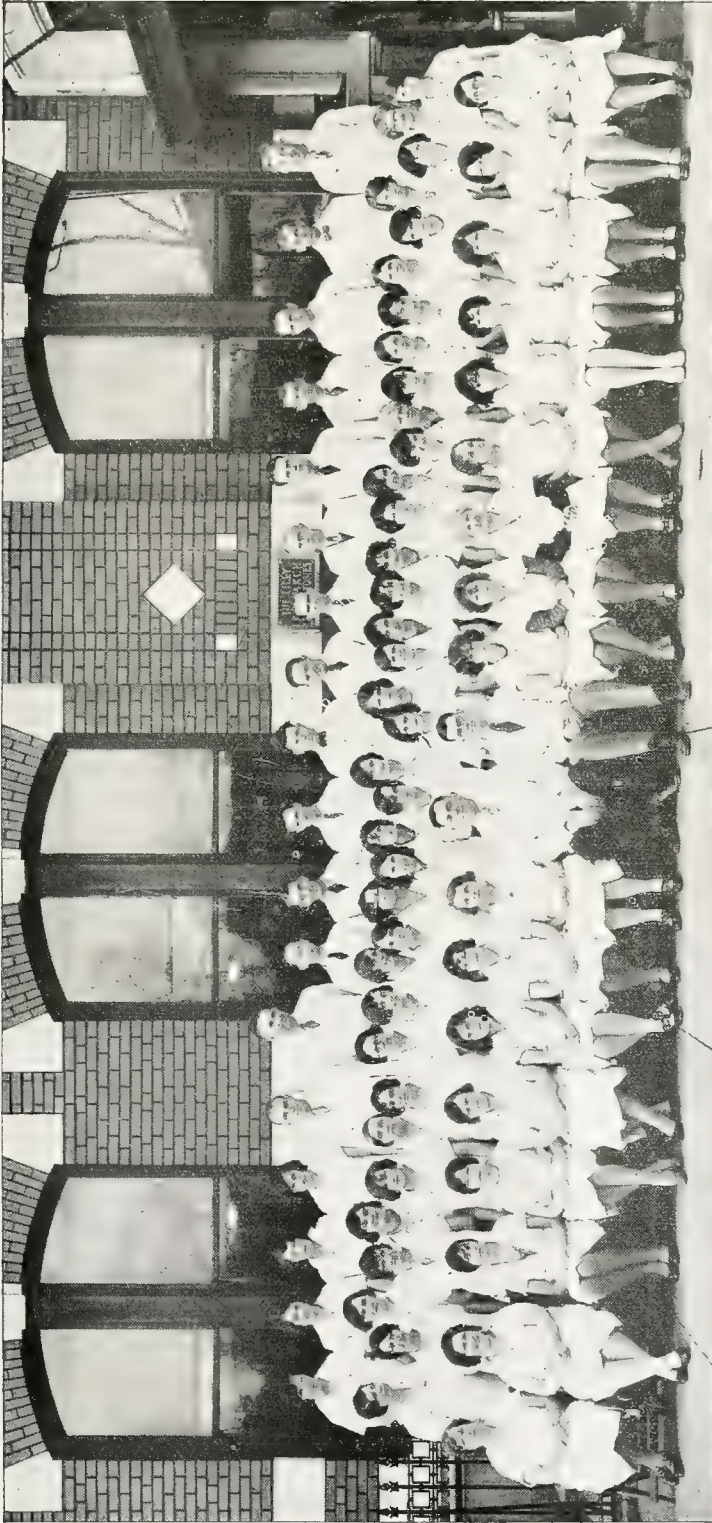
We lay no claim to first-hand knowledge of the testimonial market, but the current opinion is that the owners of the stuff could well have afforded the Speaker more than one suit.

WHY "RUSH" PATIENTS TO HOSPITALS?

It seems that no one ever goes to a hospital in any other way than in a "rush"; at least that's the way the newspapers have it, and we have much ocular and auditory evidence that the papers are stating this case truly.

Many, if not most, of us have ridden ambulances during certain portions of our interne services; and all of us know with what wild abandon these vehicles dash through the streets making all the speed and all the noise of which they are capable, whether going for a patient or a coca cola, whether the patient being taken to a hospital be a man who is bleeding to death or a victim of chronic arthritis going to spend several months being de-focused, or even returning to the garage for a 10-days stay.

The first news stories of the airplane accident in which Knute Rockne lost his life stated that the farm lad who witnessed the



TESTING, assaying, and standardizing Lilly Pharmaceuticals and Biologicals is the responsibility of the control laboratories which supervise each step of manufacturing.

It is the duty of the seventy-three inspectors portrayed above to see that Lilly Pharmaceuticals and Biologicals are properly packaged and labeled true to content. This inspection staff has been selected from experienced employees who have shown by

tests that they are naturally vigilant, accurate, and otherwise adapted to this exacting work.

In specifying "Lilly," you are designating products made from the finest of carefully selected and tested crude materials by the most approved manufacturing processes and packaged under safeguards that assure you and your patients just what you ordered. Lilly Products are distributed through the drug trade.

accident called a near-by town and "ambulances rushed to the scene."

In the past few weeks an ambulance which was being driven in utter disregard of speed limit and against the red light wrecked an automobile and injured its driver in the streets of Charlotte.

Everybody knows that this is dangerous folly.

It's right and proper to give ambulances and doctors' automobiles reasonable exemption from the operations of the parking laws, but sound sense directs that they be driven in accordance with the laws that apply to all others, and that this "rushing" cease.

THIS JOURNAL'S NOMINEE FOR THE PRESIDENCY

There are some men who have all of these qualities: intelligence, consistency, courage and an earnest love for fair dealing. Once in a century or so such a man attains to high political office, in spite of the scorn he continually shows for the trimming methods of the ninety-and-nine in politics who are too slippery to allow themselves to be held to any position which will lose them a few hundred votes.

Hear a man speak his mind:

"The purpose of the act, as I understand it, is to legalize the practice of chiropractic in this state. Practitioners of this cult are not recognized now. Do they profess to be doctors in the same sense of the term as is commonly understood to apply to men and women of the medical profession? Insofar as I am able to determine, there is not a recognized medical school in the country that includes in its curriculum a course in chiropractic. This fact in itself seem singularly significant.

Even to the lay mind the idea that all disease of whatever character is due to spinal displacements of a mild sort, and that cures of such ailments as tuberculosis, smallpox, diphtheria, scarlet fever and others can be effected by manipulation and flogging of the spine is preposterous.

Before reutrnng this bill to you I have satisfied myself that the training and education a chiropractor, or drugless healer, needs to practice his art does not fit him properly to advisedly treat the sick, inasmuch as he is not qualified to diagnose ailments nor recognize communicable diseases and to take measures to control them. He is therefore an opponent to the department of health.

Wherefore, it seems to me it would be inconsistent for the Legislature to appropriate, as it will do, money for the state board of health, which board is

trying to eradicate communicable diseases, and at the same time legalize the practice of a cult which does not believe in the germ theory of a disease but does teach and believe that such diseases as scarlet fever, etc., are due to a distracted vertebra and the method to prevent and cure such disease is to see that everybody has a normal spine."

This journal has repeatedly urged upon the consideration of politicians and newspaper men the inconsistency and wastefulness of appropriating money for maintenance of the State Board of Health whose chief function it is to teach the people of the State how to stay well, and at the same time license and advertise cultists who call themselves doctors and devote their entire time to discrediting and obstructing the teachings of the State Board of Health.

The statesman whom we quote and extol is Governor Buck of Delaware. We do not know what political party elected him to office, nor do we care. Since persons calling themselves Democrats have fallen over each other in eagerness to abandon the principles of local self-government and to impose their wills on the inhabitants of sister States perfectly capable of managing their own affairs, and the Mr. Chief Justice Hughes has come to be our most outspoken champion of State Rights, and the Democratic and the Republican parties are financed and run by the same corporations, there's not a nickel's worth of choice between them.

We hereby nominate for the Presidency of these United States, as soon as possible and as long as possible, Governor Buck of Delaware.

MECKLENBURG COUNTY MEDICAL SOCIETY TAKES ACTION IN THE CASE OF M. SAYLE TAYLOR

Recently one calling himself Dr. M. Sayle Taylor came to Charlotte and began a series of lectures on—according to the newspapers—Married Love. One of the local newspapers carried daily a section under the title "Dr. M. Sayle Taylor says—" picture and all. Both daily papers carried advertisements. He spoke over the radio. The Junior Chamber of Commerce received a "benefit." He spoke before several luncheon clubs and Sunday-school classes.

The president of the local medical society asked the A. M. A. for information. The

The drought and pellagra

If history repeats itself, poverty and privation, due to the drought, will leave pellagra in their wake this spring—as after the Mississippi flood. Authorities agree that a preparation of yeast rich in vitamine-G (B_2) serves as the best preventive of, and treatment for pellagra. To relieve pellagra during the flood of 1927, Dr. Joseph Goldberger, the U. S. Public Health Service and the American Red Cross employed large quantities of Brewers' Yeast-Harris and Yeast Vitamine-Harris in the Southern States.

Their favorable reports thoroughly justified the use of these products. Brewers' Yeast-Harris and Yeast Vitamine-Harris differ from other preparations of yeast in that biological assay of the output proves them to be uniformly very rich in the pellagra-preventive principle, vitamine-G (B_2), and also in vitamine- B_1 .

As a dietary adjunct, Yeast Bouillon Cubes Harris also furnish a dependable source of vitamine-B complex, containing both factors F and G in the form of a delicious broth.

To treat pellagra, prescribe 2 level teaspoonfuls of Brewers' Yeast-Harris two to six times daily.

YEAST VITAMINE-HARRIS

A Concentrate of
BREWERS' YEAST-HARRIS

Samples on request

THE HARRIS LABORATORIES  TUCKAHOE, NEW YORK

reply stated, among other things, that the *Chicago Tribune* had called his "message" "appallingly crude and nastily nauseating." This letter was offered to both the Charlotte daily papers; both declined to print on the ground it might be libellous.

May 5th, at a regular meeting, the Mecklenburg County Medical Society endorsed the statement made by the Bureau of Information of the A. M. A. In the discussion members expressed astonishment that Sunday-schools and civic clubs would invite speakers without first investigating them, and that any organization would place itself in the position of sponsoring one of whom it knew nothing. The *Charlotte Observer* of May 6th carried a report which, though expurgated, seemed to serve the purpose, since M. Sayle Taylor, after issuing a "challenge" to debate with "one, two, or three doctors," announced "I am not going to foist myself on a community that doesn't want me," said he had cancelled his engagements, and presumably left town.

Sic transit gloria mundi.

A HIGHLY COMMENDABLE PIECE OF WORK

A bill to be entitled: An act making it unlawful to fraudulently obtain credit at a hospital or sanatorium.

The General Assembly of North Carolina do enact:

Section 1: Any person who obtains accommodation at any public or private hospital or sanatorium without paying therefor, with intent to defraud the said hospital or sanatorium, or who obtains credit at such hospital or sanatorium by the use of any false pretense, or who, after obtaining credit or accommodation at a hospital or sanatorium, absconds and surreptitiously removes his baggage therefrom without paying for the accommodation or credit, shall be guilty of a misdemeanor, and shall, upon conviction, be fined or imprisoned at the discretion of the court.

Section 2: This act shall be in force from and after its ratification.

(Became law March 27th, 1931.)

The manner of passing this bill was as follows:

Dr. Harold Glascock of Raleigh consulted with Dr. J. T. Burrus of High Point, a member of the Senate, a number of times, and he was very agreeable and helpful. Attorney Clyde Douglas of Raleigh wrote the bill, and Dr. Glascock got Senator John Hinsdale to introduce it. The bill was sent to the Judiciary Committee of the Senate, and the next

morning after introduction, received an unfavorable report. The facts in the case were laid before the chairman of the Judiciary Committee and he had the bill recalled. Mr. Watts Hill of Durham, Mr. Douglas, Mr. Hinsdale, Dr. Burrus, and Dr. Glascock explained the bill to the committee. They at once saw the situation of the hospitals and reported it favorably. It was immediately passed in the Senate. Dr. Glascock then immediately communicated with every hospital by letter or telegram, and they gave the bill splendid support. It was explained in the Judiciary Committee of the House by Doctors Grady, Burrus, Highsmith, Willis and Proctor, and it went through without any difficulty whatsoever.

Next year it is expected to have it amended as it may appear to be necessary.

This shows what doctors can do when they zealously follow through. We can get our rights if we work for them and are not afraid.

DR. CROW A FELLOW OF THE AMERICAN COLLEGE OF PHYSICIANS

On Page 305, in our April issue, in mentioning the nine doctors of the State recently admitted to full Fellowship in the American College of Physicians, by inadvertence the name of Dr. Samuel L. Crow of Asheville was left out. The article states that nine were elected, which is correct, but the list contains only eight.

Title For The Reverend

"Look, heah, my Bredren," complained an old Baptist minister who had just been appointed chaplain of a new colored lodge, "how come yo' all got such gran' names, an' Ah ain't nuffin but jes' plain chaplain? Somethin's got to be done or Ah resigns from dis heah lodge. A discussion then arose about what would be suitable title for the reverend, and a number of suggestions were made. However, none of them suited, until one of the dusky members, struck with a happy inspiration, leaped to his feet and exclaimed: "Bruddren, Ah moves we call de revren heah de 'Holy Smoke'."

A dentist bemoans the fact that, while in the act of running his operating engine, in the last year he has lost at least fifteen hours on account of a slipping belt. Well, why doesn't he wear suspenders? *Od Quarterly.*

Our Medical Schools

UNIVERSITY OF VIRGINIA

Dr. Lawrence T. Royster spoke before the Norfolk County Medical Society on March 30th. He discussed the subject of Diarrhea and Anhydremia.

Dr. Henry B. Mulholland and Dr. J. Edwin Wood were elected Fellows of the American College of Physicians during the recent meetings in Baltimore.

Dr. H. E. Jordan and Dr. C. C. Speidel attended the meetings of the American Association of Anatomists in Chicago from April 2nd to 4th.

Dean J. C. Flippin addressed the Warwick County Medical Society on April 7th in Newport News on the subject of Treatment of Heart Disease.

Dr. Alfred Chanutin and Dr. Sydney W. Britton attended the meetings of the Federation of American Societies for Experimental Biology in Montreal on April 9th to 11th.

Dr. William H. Park, Director of the Public Health Laboratories of New York City and Professor of Bacteriology and Hygiene at New York University, visited the Medical School on April 8th. In the morning he lectured to the fourth-year class on Public Health and Hygiene, and in the afternoon he addressed the faculty and students on the subject of Bacteriology and Serum Therapy of Pneumonia.

WAKE FOREST

In connection with the meeting of the State Medical Society at Durham on April 20th-22nd, the medical chapter of the Wake Forest Alumni Association met at a dinner at the Washington Duke Hotel on Tuesday night, April 21st, with Dr. H. M. Vann, of Wake Forest, presiding. President Thurman D. Kitchin addressed the gathering.

This chapter, organized only last year, is composed of approximately 300 Wake Forest alumni who are physicians in this state. Dr. H. M. Vann is president of the group.

Dr. William Marvin Scruggs, Charlotte surgeon, addressed the William Edgar Marshall Medical Society here on Wednesday night, April 29th, on Goitre. Dr. Scruggs, who received the degree of Bachelor of Science from Wake Forest in 1912, is now chief of the surgical staff of Presbyterian

Here

is one of the advertisements of The Sugar Institute

THE advertisement reproduced here is one of the series appearing in publications throughout the country. In order to keep the statements in accord with modern medical practice, they have been submitted to and approved by some of the leading authorities in the field of human nutrition in the United States. The Sugar Institute, 129 Front Street, New York.

There is new taste-appeal

in vegetable and
meat dishes



seasoned with
sugar

Many of the nation's leading cooking authorities use sugar to season meat and vegetable dishes. The basic rule they follow is a dash of sugar to a pinch of salt.

Try this combination in making stews of meat and vegetables. Also try it in the preparation of vegetables. The result is particularly delicious

in spinach, string beans, cabbage, peas and carrots.

By improving the taste-appeal of these essential foods you will find that there will be a greater desire to eat the quantity the system needs. Most foods are more delicious and nourishing with sugar. The Sugar Institute, 129 Front Street, New York.

☛ "Good food promotes good health"

Hospital, attending physician at St. Peter's, Mercy and Good Samaritan Hospitals and is chief surgeon at the Shelby Hospital.

One of the most significant appointments which has come recently to any product of the Wake Forest School of Medicine is that of Cloyce R. Tew, of Raleigh, who for the next two years will be house resident of the Johns Hopkins Hospital at Baltimore.

Mr. Tew entered the Junior class at Hopkins in the fall of 1929, having transferred from the Wake Forest School of Medicine. His recent appointment is considered quite a distinction for any student, but is especially so for a student who did not take the entire four-year course at Hopkins.

President Thurman D. Kitchin, of Wake Forest College, likewise Dr. Thurman D. Kitchin, Dean of the Wake Forest School of Medicine, was one of the principal speakers at the dedication of the Duke University School of Medicine at Durham on April 20th. Dr. Kitchin offered greetings from the North Carolina Medical profession.

Dr. C. C. Carpenter recently addressed the Wayne County Medical Society, in session at Goldsboro, on The Precancerous Lesion.

MEDICAL COLLEGE OF VIRGINIA

COL. WILLIAM L. KELLER, M.D., Medical Corps, chief of surgical service, Walter Reed General Hospital, Washington, D. C., will be the recipient of the honorary degree of Doctor of Science at the commencement exercises of the College, closing the 93rd session of the institution on Tuesday, June 2nd. Doctor Keller is an alumnus of this institution.

DR. WILLIAM FRANCIS MARTIN announces the removal of his offices from 812-14 to 604-8 Professional Building, Charlotte, N. C. General Surgery and Gynecology. Hours 2 p. m. to 5 p. m. and by appointment.

DR. G. CARLYLE COOKE announces the opening of offices at 224 Nissen Building, Winston-Salem, N. C. Practice limited to General Surgery, Bronchoscopy, and X-Ray.

DR. JAMES M. NORTINGTON, Charlotte, delivered the address to the Graduating Class of Nurses of the Aston Park Hospital, Asheville, May 11th.

AN UNUSUAL CASE OF TETANUS

(Shore, T. H. G.—Plymouth, Eng.—in *The Lancet* (London), April 25th, 1931)

The patient, a boy aged 3, was brought in on account of difficulty in swallowing. He had been running about and playing as usual until the day he was brought, though the difficulty had been developing gradually for 4 days. During this time slight twitching of the right side of the nose and mouth had been noticed. There had been no complaint of sore-throat.

The child was extremely nervous and resented any examination, but trismus was at once observed making it impossible to examine the throat. There was some rigidity of the neck, which, however, was easily overcome. Tendon reflexes were all very brisk, but were equal on the two sides. The throat and nose were examined under an anesthetic and a crust was removed from the right nostril. Cultures were made which proved negative to diphtheria. During induction of the anesthetic the child had a severe convulsion with general rigidity and cyanosis.

On the following day generalised spasmodic convulsions were easily provoked, during which the teeth were firmly clenched, the arms, legs and back became rigid, the head was retracted, and the position of opisthotonos was assumed. The chest was fixed in the inspiratory position and cyanosis became extreme. The tongue was bitten once and flatus was passed, but never urine. After two or three minutes the spasm passed off, air was admitted to the chest, and cyanosis abated, but some degree of rigidity remained. The risus sardonicus was present. One such convulsion occurred during the night and another was observed on the morning after admission; the diagnosis was considered sufficiently definite.

Lumbar puncture was performed and 3000 units of antitoxin were injected, a further 3000 units being given subcutaneously. The fluid withdrawn presented no abnormality but was under considerable pressure, 30 c. cm. being obtained in a very short time. After washing out the rectum grs. 20 of chloral hydrate were given in saline, and were retained. Similar doses of chloral were given each night, and occasionally by day as well, and on five occasions it was necessary to give morphine in doses up to gr. $\frac{1}{8}$. For the first two days the only nourishment was glucose by the rectal route, but on the third day the spasm in the masseters relaxed enough to attempt oral feeding, which became easier as time went on, and fluid feeds up to 8 oz. soon became possible. At first attempts to feed by the mouth induced spasm of the pharynx. All sources of external irritation were removed by darkening the room, putting down a thick carpet, preventing noisy closure of the door, and so on.

Serum was given daily for five days intrathecally, subcutaneously, or both, and convulsions were notably fewer after its administration, and on some days were completely absent. The slight general

Winchester Surgical Supply Company

6 E. 7th Street

Charlotte, N. C.

Office Furniture & Equipment

Instruments

Appliances

Accessories

For the
Physician, Surgeon & Hospital

Winchester-Ritch Surgical Company

111 N. Greene Street

Greensboro, N. C.

rigidity, however, persisted. After the first day all tendon reflexes were abolished. There was never any anxiety on the score of heart failure though frequently the convulsions were alarming. On the ninth day after admission, as spasm was still present, it was decided to explore the nose again on the assumption that the site of inoculation was in the right nostril. A general anesthetic was given, and after the removal of several more crusts a small linen-covered shirt button was found fairly firmly impacted beneath the inferior turbinate.

Spasm was relaxed in a few hours, there were no more convulsions, and from now onwards there was no further anxiety for the future. No more serum was given and in five days—the 14th after admission and the 18th from the first symptom—the child returned home. Convalescence was rapid, and when seen a month later the boy seemed quite well except for a slight shuffling in his gait. The tendon reflexes had returned.

It is to be regretted that a more thorough examination of the nose was not made sooner; had it been made the duration of the illness would have been shortened. Failure to isolate *Bacillus tetani* from cultures was disappointing, but I am confident of the correctness of the diagnosis, quite apart from

the control of the symptoms obtained by administration of the appropriate serum; 21,000 units were given and no rash followed.

Bringing David Up To Date

A certain bishop once said to a little girl: "Ethel you seem to be a bright little girl, can you repeat a verse from the Bible?"

"I'll say I can," replied Ethel.

"Very well, my dear," answered the bishop, "which one is it?"

"The Lord is my shepherd—I should worry!"—*Kalends of the Waverly Press.*

The Passing Show

Old Lady—"Where did those large rocks come from?"

Tired Guide—"The glaciers brought them down."
"But where are the glaciers?"

"They've gone back after more rocks. — *Stray Stories.*

Patient—The size of your bill makes my blood boil.

Doctor—That will be twenty dollars more for sterilizing your system.—*W. F. W. in J. A. M. A.*

PRESIDENTS' PAGE

In the discharge of my office I do not contemplate any radical departure from the precedents established by my able predecessors. I desire to aid in every way possible in promoting the various purposes for which the Society stands, and I ask the loyal support of every Fellow in making the year's work at least the equal of that of the very successful one just closed.

In my work special emphasis will be laid on the promotion of friendly intercourse among physicians. This objective I conceive to be the very foundation upon which all the other purposes of the Society must rest. Without it there can be no united action in guarding and fostering the material interest of physicians, in elevating the standards of medical practice and of medical education, or in solving the problems presented by state medicine and of public health.

I expect in the course of the year to attend a meeting of each District Medical Society, not to participate in the program, but to observe its work and to learn from it.

—*M. L. Stevens,*
Pres. Med. Soc. of
the State of N. C.

CATHERISATION OF THE EJACULATORY DUCTS AND A SEMINAL VESICULOGRAM

(Kidd, Frank, London, Eng., in *The Lancet* (London), April 18th, 1931)

The patient wished to know if he was fertile. He was examined with a McCarthy panendoscope and the attachments devised by McCarthy for catheterising the ejaculatory ducts. The left ejaculatory duct orifice was closed and would not admit a catheter, the right ejaculatory duct orifice was patent and admitted a catheter readily. Sodium iodide was injected up the catheter and a radiogram was taken [An excellent picture is shown], which shows that the right vas, the right vesicle, and the right ejaculatory duct are patent. Specimens of the spermatic fluid contained living spermatozoa, and it became clear that these were coming from the right testicle only. The method has become available owing to the genius and determined zeal of Dr. Joseph McCarthy, of New York and Mr. Reinhold Wappler. I have now catheterised the ejaculatory ducts with this instrument in eight cases, and think that attention should be called to the possibility of the manipulation.

Next February seems to be a long way off; still the months roll rapidly around, and it is the desire of the officers of the Tri-State Medical Association to make the Raleigh meeting an outstanding one and to show the profession that the exigencies of the times can not dampen our professional enthusiasm.

It is thought that the general plan of having a scientific session with papers and a clinical session would be followed, and we hope that the North and South Carolina physicians will put in early their applications for places on the program. The state, and especially the city, in which the meeting is to be held should take the lead on the program. It has also been thought that it would be a good idea to return to having a social entertainment. This could be done in the form of a smoker after a brief night meeting. Somehow there is nothing more gripping than these social contacts and one physician learns to know another man to man, as well as professionally.

Nearly fifty new members were obtained at the Richmond meeting and it is hoped that at least that many will be elected at the Raleigh meeting. Please send any suggestions you have to make and any names you wish to propose and any prospects you think of to our secretary, Dr. Northington. If there is any matter pertaining to the Tri-State that you would like to take up with the writer please do not hesitate at any time to do so. Remember that medicine is progressing and that we must progress with it. "Where the vanguard rests today, the rear shall rest tomorrow!"

—*Beverley R. Tucker,*
Pres. Tri-State Med. Assn.
of the Carolinas and Virginia.

EFFICIENCY OF SCARLET FEVER ANTITOXIN (Tsuda, Taketo, Mukden, Manchuria, China, in *American Diseases of Children*, April, 1931)

An injection of scarlet fever antitoxin brings about a marked therapeutic effect, especially when it is administered within 24 hours after the onset of the disease. It cures the patient who has scarlet fever and also prevents complications.

The injection should be given as soon as possible, for the reason that the longer the treatment is postponed the less the influence of the antitoxin: no effect is to be expected when a patient is given injections 72 hours after the onset of the disease.



BOOK REVIEWS

THE FACTOR OF INFECTION IN THE RHEUMATIC STATE, by ALVIN F. COBURN, M.D., resident physician of The Presbyterian Hospital, New York. Williams & Wilkins Co., Baltimore, 1931. \$6.00.

The term, *rheumatic state*, is used to replace *acute articular rheumatism* and *acute rheumatic fever*, and to include certain vaguer and less acute manifestations. An ingenious picture, in colors, showing anatomic drawings representing the various factors in the rheumatic state constituted a unique feature. Of 162 patients in the rheumatic state, 138 had joint symptoms, 105 pancarditis, 78 epistaxis, 76 growing pains, 54 headaches, 52 heart pains and 48 chorea.

Importance is attached to at least four factors—susceptibility, age, environment and infection. Efforts to obtain bacterial growths consistently from the blood of rheumatic patients were unsuccessful. There is possibly an inherent family tendency toward the disease. It has been found impossible to produce rheumatic disease in lower animals. The author concludes that the rheumatic process represents a special type of tissue response, in susceptible persons, to chemical substances arising from disease of the upper respiratory tract.

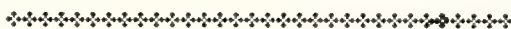
This critical study into the causation of so important a disease should be dissected and weighed carefully by the profession as a whole and in all its branches; for there's not a Doctor of Medicine to whom the rheumatic state does not constitute a major problem.

NERVOUS INDIGESTION, by WALTER C. ALVAREZ, M.D., Associate Professor of Medicine, University of Minnesota (The Mayo Foundation); Associate in Section in Division of Medicine, The Mayo Clinic, Rochester, Minn.; Author of *The Mechanics of the Digestive Tract*. Second impression with corrections. Paul B. Hoeber, Inc., New York, 1931. \$3.75.

Twenty years ago few dared use the term, indigestion, nervous or otherwise. Then everything was assumed to be "organic." But surgical operations and careful post-mortem examinations failing to find physical explanations in too many cases, and in many the connection between evident emotions and failure of digestion was too plain to be ignored.

There is an admirable historical chapter on the effects of emotion. The consideration of the different types of indigestion gives due emphasis to the several important causes, local and general, of indigestion of organic origin. There are many valuable suggestions on the handling of the nervous patient in general, as well as in the management of him when he has nervous indigestion.

The book represents what has been learned from a great volume of carefully checked work, by one having unusual critical discrimination, remarkable lack of bias, and the rare faculty of writing fllessly.



IT COSTS LESS

TO

TRAVEL BY TRAIN

The Safest, Most Economical, Most Reliable Way
TWO-DAY LIMIT round trip tickets on sale daily at ONE and ONE-THIRD (1 1/3) FARES for the round trip between all points within a radius of 150 miles.

SIX-DAY LIMIT round trip tickets on sale daily at ONE and ONE-HALF (1 1/2) FARES for the round trip between all points within a radius of 150 miles.

FARES FROM

CHARLOTTE

NORTH CAROLINA

To	One Way Fare	Round Trip "Two-Day Limit"	Round Trip "Six-Day Limit"
ASHEVILLE, N. C.	\$5.21	\$6.95	\$7.85
BARBER, N. C.	1.56	2.10	2.35
BLACKSBURG, S. C.	1.67	2.25	2.55
CHESTER, S. C.	1.60	2.15	2.40
COLUMBIA, S. C.	3.90	5.20	5.85
CONCORD, N. C.	.77	1.05	1.20
DANVILLE, VA.	5.12	6.85	7.70
GASTONIA, N. C.	.78	1.05	1.20
GREENVILLE, S. C.	3.84	5.15	5.80
GREENSBORO, N. C.	3.38	4.55	5.10
HIGH POINT, N. C.	2.84	3.80	4.30
HICKORY, N. C.	2.74	3.70	4.15
MOORESVILLE, N. C.	1.02	1.40	1.55
RALEIGH, N. C.	6.26	8.00	9.00
ROCK HILL, S. C.	.90	1.20	1.35
SALISBURY, N. C.	1.59	2.15	2.40
SENECA, S. C.	5.22	7.00	7.85
SHELBY, N. C.	1.91	2.55	2.90
SPARTANBURG, S. C.	2.70	3.60	4.05
STATESVILLE, N. C.	1.59	2.15	2.40
WINSTON-S'L'M, N. C.	3.00	4.00	4.50

To all other stations within 150 miles from Charlotte, on the same basis.

Also 10-trip, 20-trip and 30-trip low fare tickets, between stations 200 miles apart, good 6 months.

ASK AGENTS FOR PARTICULARS
CITY TICKET OFFICE

308 West Trade St.

Phone Dial 2-3351



THERAPEUTICS, MATERIA MEDICA AND PHARMACY: The Special Therapeutics of Diseases and Symptoms, the Physiological and Therapeutical Actions of Drugs, the Modern Materia Medica, Official and Practical Pharmacy, Prescription Writing, and Antidotal and Antagonistic Treatment of Poisoning, by SAMUEL O. L. POTTER, A.M., M.D., M.R.C.P., Lond., formerly Professor of the Principles and Practice of Medicine in the Cooper Medical college of San Francisco; Author of the "Quiz-Compend of Anatomy and Materia Medica," etc. 15th edition, revised by R. J. E. SCOTT, M.A., B.C.L., M.D., New York, Fellow of the New York, Fellow of the New York Academy of Medicine; Formerly Attending Physician to the Demilt Dispensary; formerly attending physician to the Bellevue Dispensary. *P. Blakiston' Son & Co., Philadelphia, 1931.* \$8.50.

Potter's has been a first-class manual on drugs and their uses for decades. As more information was obtained on old drugs and newer curative agents were introduced edition after edition was put out, each representing careful study and wise decision as to what deserved to be included. The 15th Edition evidences the following of this plan. Its teaching represents a middle ground equally removed from the blind faith in the *materia medica* on the one hand, and superficial therapeutic nihilism on the other.

This is an excellent reference book to which the busy doctor can go for suggestions and directions to help him when he is at his wits' end.

A bit more care in proof-reading would have made it still better.

DIAGNOSTIC METHODS AND INTERPRETATIONS IN INTERNAL MEDICINE, by SAMUEL A. LOEWENBERG, M.D., F.A.C.P., Associate Professor of Medicine, Jefferson Medical College; Assistant to the Jefferson Hospital, Visiting Physician to the Philadelphia General Hospital, The Northern Liberties Hospital and the Eagleville Sanatorium for Consumptives, formerly Assistant Professor of Physical Diagnosis at the Medico-Chirurgical College and the University of Pennsylvania. 547 illustrations, some in colors. 2nd revised edition. *F. A. Davis Co., Philadelphia, 1931.* \$10.00.

The author writes with the needs of the doctor for the whole man in mind. It is significant that the opening sentence says that the two essentials of the practice of medicine are diagnosis and treatment. The book devotes itself to the idea that without good diag-

nosis there can be no satisfactory treatment, and consistently it sticks to its aim to inform how to diagnose.

The technic of different procedures in examination is of rare excellence. Not too much is assumed to be known, nor is detail gone into to the point of tedium. Discussion is adapted for the medical student and the doctor. Tables of differential diagnosis listing all common and most uncommon causes of a certain finding are a helpful feature. The arrangement is excellent and the illustrations adequate. It's a fine book.

PRACTICAL DIETETICS FOR ADULTS AND CHILDREN IN HEALTH AND DISEASE, by SANFORD BLUM, A.B., M.S., M.D., Head of Department of Pediatrics and Director of the Research Laboratory, San Francisco Polyclinic and Post-Graduate School. 4th revised and enlarged edition. *F. A. Davis Co., Philadelphia, 1931.* \$4.00.

This book is written with the fact in mind that diets must be adapted to the patient and to the disease; also that however admirably any given diet may be suited to the nutritional needs of a patient, it is futile to prescribe it if a patient will not or can not follow it. Moderation and adaptation are in evidence all along. General principles are discussed sufficiently and special applications given in abundance. Attention is paid to dietary problems presented when an individual is afflicted with more than one disease. In parallel columns are listed (1) what one may eat and (2) what one may not eat. Out of a 20-year experience the author has written a book filled with matter of great helpfulness in the prescribing of proper nutrition for states of health and disease, and for handling food faddists as well.

CALCIUM METABOLISM AND CALCIUM THERAPY, by ABRAHAM CANTAROW, M.D., Assistant Demonstrator of Medicine in the Jefferson Medical College, Philadelphia, with a foreword by HOBART AMORY HARE, B.Sc., M.D., LL.D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia. *Lea & Febiger, Philadelphia, 1931.* \$2.50.

Only recently has the importance of calcium as a therapeutic agent attracted wide attention, and even now there is much diversity of opinion on the subject. Enough has

been developed, however, to make it clear calcium deserves careful consideration by the bedside doctor. This little book aims to present the subject of normal and abnormal calcium metabolism and, then, calcium therapy from the standpoint of practical utility. Here the doctor may find specific information as to when, how and in what dosage calcium should be administered.

HEMORRHOIDS: THE INJECTION TREATMENT AND PRURITUS ANI, by LAWRENCE GOLDBACHER, M.D., Illustrated with 31 half-tone and line engravings, some in colors. 2nd revised edition. *F. A. Davis Co.*, Philadelphia, 1931. \$3.50.

The great liability of mankind to piles, the discomfort and disability produced by the condition, and its amenability to proper treatment make the occasion for the publication of many books on the management of cases of this condition.

The profusion and carefully worked-out detail of the illustrations and description in a lucid text, supplemented with a number of illustrative case reports make this a volume of unusual usefulness.

ELECTRICAL HEALTH HELPS

The attention of physicians and patients alike is invited to those electrical appliances which can be used to such splendid advantage for the comfort and health of persons who are not enjoying perfect health.

The electric heating pad, for instance, constant at any desired temperature, is a God-send to thousands who need applications of heat for the relief of pain. Small water heaters and other small appliances are found to be of great convenience and value in sick rooms.

The G. E. Sun Lamp, the Master Healthizer or the Graybar Stimulator, and other appliances may be used in many cases with much benefit.

You are invited to inspect these and other appliances at any of our stores.

**SOUTHERN PUBLIC UTILITIES
COMPANY**

**NORTH CAROLINA PUBLIC
SERVICE COMPANY**
Charlotte, N. C.

READ your Journal!

Careful reading will bring to your attention innumerable articles, that a hasty glance will overlook, which may prove to be of inestimable value to you.

Patronize Journal Advertisers



Their Solicitation
merits
Your Consideration

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., *Supt.*)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., *CHIEF*

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

Obstetrics and Gynecology

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS FANNIE AUSTIN, *Nurse*

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*

CHARLES S. MOSS, M.D. *Surgeon*

O. J. MacLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE *Pathologist*

INTERNAL MEDICINE

JAMES M. NORTHINGTON, M.D.

Diagnosis and Treatment
in

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park Arkansas

JAMIE W. DICKIE, B.S., M.D.

INTERNAL MEDICINE
DISEASES OF THE CHEST

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

Practice Limited to

ORTHOPEDIC SURGERY and FRACTURES

Fifteen West Seventh Street
105 W. Franklin Ave.

Charlotte
Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761
Burlington North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT
PHONES: Office 1060—Residence 1230-J
3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT
Telephones—

Office—4063
Hours—9 to 5 and by Appointment
219-23 Professional Bldg. Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.
Consultation 219 Professional Bldg.
Phone 4063

SURGICAL TECHNIQUE

POSITION WANTED: Well trained technician 21 years of age would like to have place in hospital or private laboratory. Can do general laboratory work including Wassermanns and tissues. Can also give Basal metabolism tests. What have you to offer? *References.* Address Miss C. L. S., care this journal.

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

*NERVOUS AND MENTAL DISEASE
ADDICTIONS*

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.
RAYMOND THOMPSON, M.D.
CLAUDE B. SQUIRES, M.D.
THEODORE M. DAVIS, M.D.

Prostatic Resection and Operative Cystoscopy:

THEODORE M. DAVIS, M.D.
CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology

ROBERT H. LAFFERTY, M.D.
CLYDE C. PHILLIPS, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKay and McKay***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.

Charlotte

Residence Phone 1858

Office Phone 1857

221 East Main Street

DR. W. B. LYLES

Spartanburg, S. C.

Practice limited to

UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., Director***PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM*

Colonial Apartments

Greer, S. C.

L. D. McPHAIL, M.D.**WYETT F. SIMPSON, M.D.***RECTAL DISEASES**GENITO-URINARY DISEASES*

Phone 1234

405-408 Professional Bldg. Charlotte

Hot Springs National Park, Arkansas

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

R. B. McKNIGHT, M.D.*SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30-5

Professional Building

Charlotte

WM. MARVIN SCRUGGS, M.D., F.A.C.S.*SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

WILLIAM FRANCIS MARTIN, M.D.*GENERAL SURGERY**GYNECOLOGY*

Professional Building

Charlotte

HAROLD GLASCOCK, M.D.*GENERAL SURGERY AND
DIAGNOSIS*Office At
Mary Elizabeth Hospital
Raleigh, N. C.

Residual Conditions Following Operation on the Biliary Tract*

JOHN B. DEAVER, M.D., Philadelphia

The choice of my subject has been prompted by a remark frequently made to me, especially by physicians, that some of their gall-bladder patients are none the better for having been operated upon. This may be true in some instances, but most often it is neither the whole truth nor nothing but the truth. In short, it is only partly true, because neither the doctor nor the patient, but only the operating surgeon, knows the extent of pathology present at operation, and it is only he who can say how much worse off these patients might have been without operation. I realize it is idle to speculate on what might have been and that the better philosophy is to accept, or at least to deal with, what is. The fact is that the majority of patients are relieved by operation on the biliary tract, and although those that are not are in the minority, it seems pertinent to inquire into some of the causes of residual conditions after such operations.

The first consideration is to determine whether these more or less remote events are such as pertain to abdominal section in general, such as adhesions, or whether they are related to the special surgical procedure and the special pathology in a given case of disease of the bile passages.

We all know that postoperative complaints are often attributed to adhesions, and we also know that adhesions as a rule cause no symptoms unless they interfere with organic function. The diagnosis of adhesions is a very convenient one, but is not always tenable. Neurosis must enter into consideration for a great deal of postoperative morbidity. At the same time obstructive adhesions are responsible for certain residual complaints, but in ad-

dition we must also look for other causes, such as overlooked stones or stones that have reformed; incomplete diagnosis, that is, failure to recognize and to treat coexisting conditions—visceroptosis, peptic ulcer, pylorospasm, appendicitis, reinfection and finally, concomitant conditions that are the direct result of delayed surgery, as for example—cholangitis, choledochitis, hepatitis, pancreatitis, and splenitis.

In the experience of the Lankenau Clinic in a recent series of 2,700 operations for disease of the biliary tract, 143, or 5.3 per cent, were secondary operations (parenthetically be it said that not all the primary operations were done by us). In a small percentage of cases symptoms developed immediately after operation, while in others they were delayed for several weeks or months, and a third group, after one or more years of well-being, developed what may be termed residual symptoms.

Some of the early recurrences are no doubt due to a readjustment process. Rost and other physiologists have demonstrated, both in the human subject and by animal experiment, that after cholecystectomy there usually is a compensatory dilatation of the common duct which takes care of the balancing of bile pressure formerly provided by the gall-bladder. It is only natural that in some patients this readjustment process, with its increased bile pressure, just like every healing process, should be associated with pain, more marked in some individuals than in others. In some instances, on the other hand, the pain may be due to insufficient dilatation of the common duct, to spasm of the sphincter of Oddi, or to stricture of the papilla of Vater, any of which may cause bile stasis.

*Presented by invitation to the meeting of the Medical Society of the State of North Carolina held at Durham, April 20th, 21st and 22nd, 1931.

This compensatory dilatation is described by Rost somewhat as follows: A few weeks after cholecystectomy the sphincter of Oddi again becomes continent, and the common duct closes. Thus the bile, in the absence of its former outlet into the gall-bladder, collects in the common duct and perhaps also in the hepatic duct and the consequent dilatation of the ducts accounts for the colicky pain. It is only when the bile finally finds a free outlet into the duodenum that the attacks of pain subside. The fact that it takes several weeks before compensatory dilatation is completed explains the delayed appearance of the post-operative pain so discouraging to the patient and the doctor alike. In this connection it has been pointed out that these colicky pains are more apt to occur after removal of a gall-bladder whose function has not been entirely abolished than after removal of a functionless gall-bladder where the compensatory dilatation of the common duct has already taken place. Treplen, who makes this observation, has had some success in relieving the pain by abdominal massage.

Adhesions as related to surgery of the biliary tract, though not always the cause of, are a common finding in secondary operations. They may form about the hepatic and the common duct, the liver, duodenum, stomach or the hepatic flexure of the colon. They develop as the result of trauma, congestion, infection, stasis, and failure to peritonealize raw surfaces. In extreme cases they are so dense and so *eingemauert*, to use an apt German expression, that it is a truly gigantic task to separate them in order to recognize the anatomic landmarks. Oftentimes when the stomach is involved, a gastro-enterostomy has to be made in order to prevent future obstruction. In a few instances spasticity of the musculature of the biliary tract and of the duodenum is associated with a neurasthenic condition, a combination that may be difficult to correct by any measures, surgical or medical. A circumscribed duodenitis or perhaps a duodenal ulcer, consequent upon lymph-borne infection from the gall-bladder, is occasionally met with.

During the more or less prolonged disturbed function of the gall-bladder, a stone or stones may at first be floated out with the bile, but later on as the gall-bladder contracts they may lodge in one of the bile ducts, or

as the ducts dilate they are apt to lodge in the recesses of the duct so that they cannot always be detected and removed at operation. The resulting cholangitis, not infrequently the cause of stricture of the common duct, is also an important factor in postoperative complaints. The resistance of cholangitis to any form of treatment other than surgery is too well known to require discussion. Suffice it to say that one way of avoiding cholangitis is early attention to disease of the liver and the gall-bladder. As to recurrence of stones, it is of course not always easy to determine whether these are stones that were overlooked at operation or whether they are newly formed stones. The fact that often they are present in large numbers, sometimes several hundreds, would lead to the conclusion that they have reformed. On the other hand, every surgeon knows how difficult it is at times to clear the two primary branches of the hepatic duct and how often in the attempt to clear the hepatic duct one or more stones may be displaced beyond the reach of the surgeon. That these stones may produce postoperative obstruction of the common duct is altogether likely. Indeed, in some instances several re-operations may be required in order to establish a complete cure, as for example in cholangitis where the excreted bile is muddy and sandy and there is distension of the common, the hepatic and the primary branches of the hepatic duct. Two or more operations, T-tube drainage, irrigation, etc., will be necessary to clear the ducts in such instances.

If it is possible for gallstones to be overlooked during cholecystectomy or for them to reform after the radical operation, it is certainly not surprising that the operation of cholecystostomy should sometimes also be followed by similar residual conditions. As a matter of fact, in our experience the vast majority of recurrent symptoms take place after cholecystostomy and fully 30 per cent of the residual complaints are due to gallstones. These recurrences may take place as late as eight or 10 years after the gall-bladder has been drained. Here also it is difficult to state definitely whether the stone formation is new or whether the stones were present and overlooked at the original operation. The presumption is more in favor of the former than of the latter, although experience indicates both possibilities. I have

in mind several patients who had remained well for years after cholecystostomy and then developed typical attacks of gallstone colic. At the second operation in one case several stones were found in the gall-bladder and a few in the common duct. It is of course possible, but scarcely probable, that these were overlooked stones that had remained quiescent for all those years. In another instance a patient who had remained well for two years after cholecystostomy for gallstones presented himself for recurrent symptoms. At operation the gall-bladder was found to be actually packed with hundreds of small stones, which likewise could scarcely have been missed at the first operation. In another re-operated case a stone was found in the cystic duct. This probably was present at the primary operation, and if so, would have been removed if the gall-bladder had been taken out. The fact that residual pathology after cholecystostomy is more common than after cholecystectomy speaks in favor of doing the radical operation whenever possible. While conceding that there are occasions when the better policy is to satisfy oneself with simply draining the gall-bladder, I cannot subscribe to the argument or the belief that restoration of function of the gall-bladder occurs after simple drainage. This of course depends upon the absence of, or the amount of injury to the gall-bladder by the infection. We know from bacteriological investigations that in about 86 per cent of cases the cystic gland contains streptococci and that a smaller percentage is present in the submucosal space and the outer walls of the gall-bladder. A gall-bladder once infected never regains its normal resilience and a gall-bladder retained when it should be removed is reserved, not for future function, but for future trouble. Furthermore cholecystitis which is a cause of residual symptoms occurs in about 7 per cent of cholecystostomies.

Myocardial weakness both as a pre- and a post-operative residual condition of cholecystitis is particularly noted in obese patients, more often in the female. On account of myocardial weakness, operation is held off for a time and in some instances refused. Long ago the late Dr. Babcock of Chicago stressed the relationship between chronic disease of the gall-bladder and the myocardium, and argued for operation in many of these cases.

The bacteriological findings, to which I have already referred, support this view.

In some instances disease of the biliary tract gives rise to a low grade catarrhal gastritis with low acidity or anacidity and since the removal of the gall-bladder does not always influence the gastric secretion and since hypoacidity favors bacterial growth, it is possible for the biliary tract to become re-infected and cause postoperative symptoms.

A certain degree of hepatitis and cholelithiasis is known to be associated with practically every case of cholecystitis. In spite of the regenerative power of the liver, man cannot live without his liver, so for the present at least, it is one of the organs that is safe from the surgeon's knife. Hepatitis can be relieved surgically only by removal of the gall-bladder and drainage of the common duct for a more or less indefinite time. While cholecystectomy may correct enough pathology to effect a regeneration of the cellular and hematogenous forces of the body to overcome the smoldering process in the liver, it does not always immediately remove all the effects of long-standing pathology, so that a residual hepatitis, a residual cholangitis, and a residual cholelithiasis may be expected in certain cases. The question, whether the primary source of infection lies in the liver or the gall-bladder requires further investigation. Clinically, we can point to apparently as many cases of the one as of the other. The role of the appendix, however, as the actual guilty party must ever be borne in mind. Autopsy findings in a recent case of multiple minute miliary hepatitic abscesses once more emphasizes the part played by the appendix as the focus from which the upper abdomen oftentimes becomes infected. This, as we all know, is readily explained by the relationship of the vascular channels of the appendix with the tributaries of the portal vein. Briefly stated the case is as follows:

A man, aged 28, referred from the medical ward, was admitted to the Lankenau Clinic with a history of attacks of dull abdominal pain after meals and sometimes irrespective of meals. No nausea or vomiting. Past medical and family history negative. The patient was on a limited diet. Physical examination was negative. Roentgen-ray studies showed hyperperistalsis and spasticity of the duodenal cap—no crater. The findings indicated reflex irritation but were insufficient to warrant a diagnosis of ulcer.

There was slight ptosis of the colon with cecal and colonic stasis. Cholecystogram showed sluggish biliary function. Fractional test meal showed hyperacidity, total 85 and free 55. No retention. While under observation, the patient was able to take only milk, crackers, bread and cream. Any other food caused generalized abdominal pain and tenderness, the latter being present only during the attacks of pain. The blood count remained normal. The diagnosis wavered between acute appendicitis, atypical peptic ulcer and chronic cholecystitis. At operation, 38 days after admission, an acutely inflamed appendix containing a fecolith was removed. The liver showed grey streakings. The gall-bladder appeared diseased and was removed. Because of marked pylorospasm, the anterior half of the pyloric sphincter was also removed. The pathologist reported acute appendicitis; gall-bladder, minor lesion. The patient rallied from operation, but on the following day the temperature shot up to 102°F.; patient unco-operative and slightly irrational. Complained of a good deal of abdominal pain. Died on the 6th day after operation. Autopsy, multiple abscesses in 2 large infarcts of liver. Liver friable throughout and streaked with grey. Cultures of the appendix, cystic gland, gall bladder walls and of the hepatic abscesses were all positive for streptococci.

That prolonged hepatitis may lead to biliary cirrhosis and the latter in turn to splenic enlargement, merely offers further evidence that it is not surgery, but delayed surgery, that has failed to effect a complete cure.

The same applies to chronic pancreatitis as one of the residual conditions under discussion. In the series above referred to, in about 10 per cent of cases, were recurrences due to symptoms of chronic pancreatitis. We find from observations in our follow-up clinic that those patients who at operation present a certain degree of hardening of the pancreas do not regain their health as promptly as those without this added feature. The pain persists, the stools show increased neutral fats, fatty acids and undigested protein fibers; diastase is found in the urine and lipase in the blood serum. Sometimes there may be a cicatricial contraction of the papilla of Vater. While most of those in the first named group may recover completely in time, some may require secondary drainage of the pancreas by means of choledochostomy, to relieve the stasis in the pancreatic duct and stasis of pancreatic secretion, both of which are responsible for the development of pancreatitis. The second group can scarcely be relieved without operation consisting of

dilatation of the papilla of Vater, T-tube drainage of the common duct or if the gall-bladder and a patulous cystic duct have not been removed, a cholecysto-duodenostomy or cholecysto-gastrostomy. Personally I prefer external T-tube drainage of the common duct.

May I hope this brief resumé of why operation does not always immediately establish a cure is at the same time a brief for surgery, and a plea for early attention to disease of the biliary tract as one means of acquitting surgery of the suspicion of inadequacy.

A few words as to incomplete diagnosis as a cause of residual conditions after surgery on the biliary tract. This eventuality to my mind emphasizes the importance of careful clinical study, especially the history and the physical examination, and correlating these with the clinical routine analyses of the urine, the blood, blood chemistry and x-ray findings, but not relying exclusively on the laboratory diagnosis. In other words, letting the senses sense the conditions and the test-tube confirm them.

FOR THE EARLIER DIAGNOSIS OF ABDOMINAL EMERGENCIES

(Fagge, C. H., Guy's Hospital, British Medical Journal, January 10th, 1931)

Any severe abdominal pain lasting for hours rather than minutes, and for which a definite and adequate cause can not be found and demonstrated, should be regarded as probably due to a surgical emergency, and the patient placed at once under such conditions that, when confirmatory evidence is forthcoming, operation may be undertaken without further delay.

Of all abdominal emergencies at least 50 per cent result from acute appendicitis. I place in the diagnosis of acute appendicitis the greatest reliance upon localized rigidity; when present, this involves the right lower rectus and obliques, and may be absent when the appendix lies in the pelvis. It is also absent or much diminished for the first few hours after the appendix has perforated, but as a rule is present before the initial abdominal pain has migrated to the right iliac fossa, which it usually does in from 6 to 12 hours after its onset. Much can be learnt from a description of the pain—its constancy, its severity, and, if it ceases, the manner of its passing off. The pain of acute obstruction is variable—spasmodic—as is that of colic. No pain equals in severity that of perforation of a hollow viscus. The pain due to colic subsides quickly and is suddenly gone, quite unlike that of acute inflammation—for example, appendicitis.

Endoscopic Aspects of Lung Pathology With Some Studies in Pneumonography*

V. K. HART, M.D., Charlotte, N. C.

From The Charlotte Eye, Ear and Throat Hospital

Recently I presented a paper on a similar title.¹ It is my purpose to avoid repetition of the subject matter then presented as far as possible. In our section, endoscopy has apparently been looked upon merely as a means of removal of foreign bodies lodged in the food and air passages. Recently bronchoscopies over a 10-week's period at our clinic were analyzed, and of a total of 30, only 3 (10 per cent) were for the extraction of foreign bodies. In other words, endoscopy has a wide usefulness in a therapeutic and diagnostic way not usually appreciated.

The discussion is presented under this classification: I Pneumonitis, II Bronchiectasis, III Extrabronchial abscess, IV Neoplasms.

I. Pneumonitis. I use this term in the definite sense of an inflammatory process involving any portion of the bronchial tree, of the parenchyma of the lung, or of both, before cavitation of any type. This is the stage of a very acute inflammation, tantamount to a powerful protective effort by Nature.

The early stage of a pulmonary blocking is a pneumonitis. With bacterial decomposition of secretions due to any type of obstruction of the air passages there ensues a violent infiltrative reaction. If this continues ulceration and breakdown of tissue occur, with a resulting bronchiectasis or extrabronchial abscess, depending on whether the obstruction is in one of the larger or smaller bronchi.

A widespread infection of the lower air passages may occur, without preceding obstruction, due to chilling or secondary to an upper respiratory infection; this is merely a more extensive form of pneumonitis. Secondary breakdown of tissue may occur later as a complication with one or the other type of abscess. Apparently an infected embolus is more apt to give an extrabronchial abscess,² but here again there is first a pneumonitis, though localized.

In this stage external thoracic surgery is

distinctly contraindicated. Bed rest, high caloric feedings, postural drainage and occasional bronchoscopy are alone indicated. The latter should be used if the drainage is profuse, with the instillation of a bland, antiseptic oil.

This illustrative case is presented since it well shows the various problems involved. A white male was seen in February, 1931, with a history of having inspired a piece of popcorn three months previously. The mother stated that he had coughed up the foreign body 19 days later. She had consulted a pediatrician because of the child's persistent cough. X-ray study showed diffuse involvement of the right lower lobe as indicated by a marked increase in density without true cavity formation. The child was at once bronchoscoped and a quantity of foul-smelling pus evacuated from the right lower lobe bronchus. The child did well for a short period, but suddenly began to run a high septic fever, and examination, clinically and by x-ray, showed a secondary involvement of the left lower lobe. This illustrates the so-called "internal circulation" of pus in the bronchial tree; a "slopping over" into the healthy side.

Culture of the pus showed a gram-negative bacillus suggesting a Vincent's infection, and both gram-positive and gram-negative cocci. However, anerobic culture produced only the cocci, and therefore argued against a Vincent's infection which is, of course, anerobic. Moreover, a blood culture also gave a gram-negative bacillus. Blood Wassermann was negative.

Nevertheless, clinical improvement followed four injections of .3 gm. of neoarsphenamine intravenously. Repeated bronchoscopic drainage was also used. With such treatment the left base cleared, but the right base remained more or less in *status quo*. A surgical consultation was requested with the idea of doing a phrenicectomy. This operation was done,

*Selected for presentation to the General Sessions of the Medical Society of the State of North Carolina meeting at Durham, April 20th, 21st and 22nd, 1931.

17 cm. of the nerve being avulsed under local anesthesia. With the immobilization and partial collapse of the diseased area thus secured a remarkable improvement followed. The sputum was reduced to about an ounce a day with little odor, the hemoptysis was entirely checked, the temperature began to hug the normal line, and a persistent racking cough was reduced to one morning paroxysm and but little for the rest of the 24 hours. Since leaving the hospital, the child has made rapid strides toward complete recovery.

Extrabronchial compression is another type of obstruction giving a pneumonitis. This gives a picture of a drowned lung simulating obstruction due to a foreign body, with cough and fever. The following case well illustrates the salient points:

The patient, a male white child, aged 7 months, was referred on 1/10/31 for supposed foreign body of the left bronchus. There was a persistent barking cough and marked elevation of temperature.

Bronchoscopy showed a reddened left bronchus with the lateral wall definitely compressed with marked occlusion of the main-stem bronchus. No foreign body was seen, although the x-ray showed a typical drowned lung with a partial atelectasis on that side, as we would expect from foreign body occlusion of the main-stem bronchus.

An intradermal tuberculin test of $\frac{1}{2}$ mg. was "doubtful to negative." The blood count was: w. b. c. 28,800, hgb. 58 per cent, polymorphonuclears 38 per cent, lymphocytes 44 per cent, large mononuclears 14 per cent, transitionals 4 per cent. Culture of the aspirated material showed a diphtheroid and a coccus typical of the streptococcic group. No tubercle bacilli were found.

After four bronchoscopies the child became fever-free, gained weight, and the cough practically disappeared. Two months after apparent recovery this child had a recurrence of the former trouble and died suddenly. Autopsy was not obtained.

Comment: In the first case the phrenicectomy—and not the bronchoscopy—deserves the credit for the clinical improvement. Furthermore, it probably prevented a very acute suppurative pneumonitis from progressing to a frank abscess cavity. Bronchoscopy here was of value only in establishing the diagnosis as to type and location beyond peradventure of doubt, and in ruling out a residual foreign body.

A very intense pneumonitis follows any

type of obstruction. If promptly relieved, as, unfortunately, was not done in the first case, prompt recovery ensues. The temperature usually subsides in 24 hours if a foreign body is removed in the first 48 hours.

The cause of the extrabronchial compression in the second case was probably an enlarged gland, though the type of hypertrophy can only be guessed. The most common form in a child is a tuberculous gland. The negative tuberculin test here argued against this. Hodgkin's disease and the leucemias will give similar involvement of peribronchial or mediastinal glands. Occasionally a mediastinal neoplasm will give tracheal or bronchial compression. There was no evidence in the blood count of a blood dyscrasia.

II. Bronchiectasis. This is not uncommon. Two illustrative cases are briefly cited.

CASE 1.—A white woman, aged 55 years, first seen in consultation 2/9/31 because of a productive cough and loss of weight.

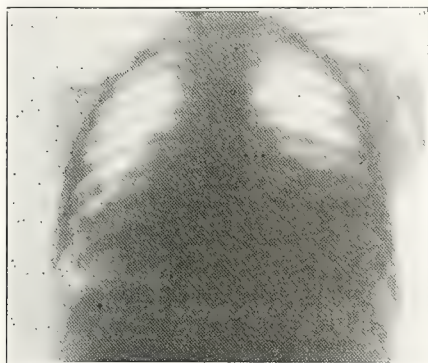
Bronchoscopy showed a reddened, thickened, bronchial tree with considerable thickening of the left lower bronchus. (Two successive biopsies were negative for neoplasm.) Much thick pus was aspirated which gave no growth on culture and showed no tubercle bacilli. Lipiodol was instilled and x-rays taken which showed an extensive, bilateral, multiple bronchiectasis, worse on the right.

No causative factor could here be demonstrated. With bilateral involvement the benefit from a right phrenicectomy was questionable. Our surgical consultant therefore only gave a blood transfusion because of a concomitant anemia. Bronchoscopic examination was repeated three times with no marked improvement. Postural drainage only was then advised because of the chronicity and poor outlook for complete recovery. Because of her age, generally poor condition and extensive bilateral involvement, no chest surgery could be conscientiously advised. She has improved considerably under conservative management.

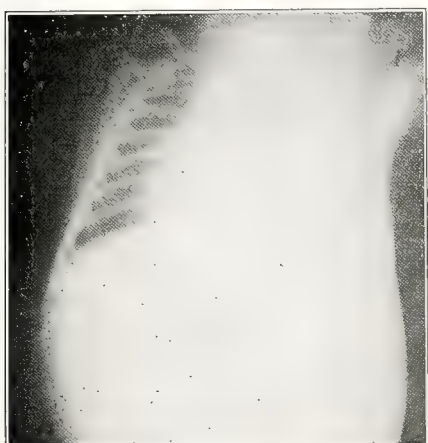
CASE 2.—The second case is most interesting because it occurred in a white girl only 20 years of age. She also was seen early in 1931. She was referred because of chronic cough, the history of which dated back several years. Examination showed a frank suppurative antrum and ethmoid of the left side. The sputum was not more (by actual measurement) than 2 ounces in 24 hours and was negative for tuberculosis. However, pneumonography carried out at bronchoscopy showed an extensive bilateral multiple bronchiectasis out of all proportion to her clinical picture. She was running no fever. She has been advised, of course, to have her sinus condition treated by radical operation, as this is in



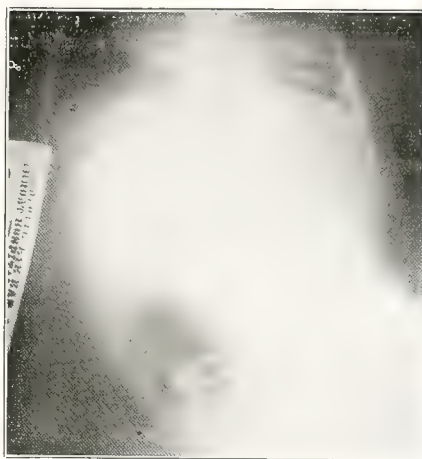
I Boy, age 5 years. End result of a neglected foreign body 3 months after aspiration. Arrow points to a marked increase in density involving practically the whole lower right lung. This is tantamount to a widespread pneumonitis.



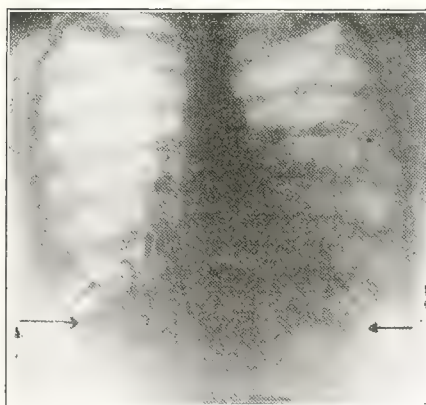
II The same patient after right phrenicectomy. Bronchoscopic drainage was not sufficient. Clinical recovery followed.



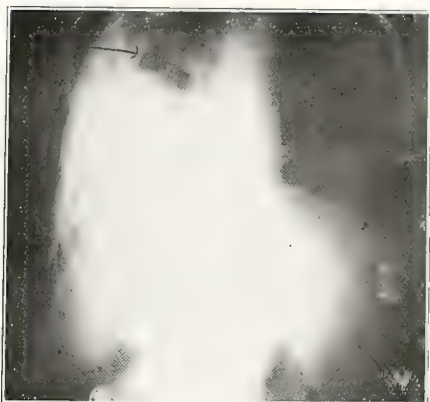
III Boy, age 7 months. Extrabronchial compression of the left main-stem bronchus with resulting "drowned lung," another type of pneumonitis.



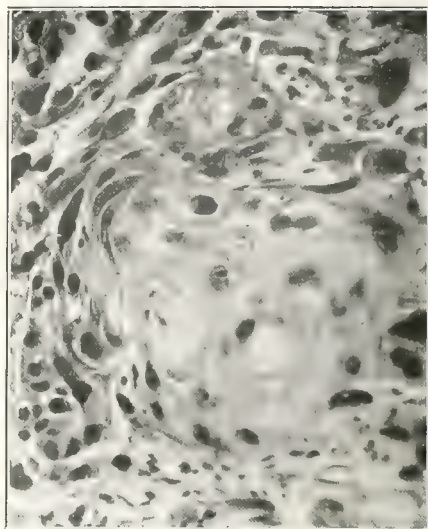
IV Same child 24 hours after bronchoscopic aspiration, showing marked improvement. After four such aspirations, this child remained well for two months, after which the compression recurred. The cause was never determined.



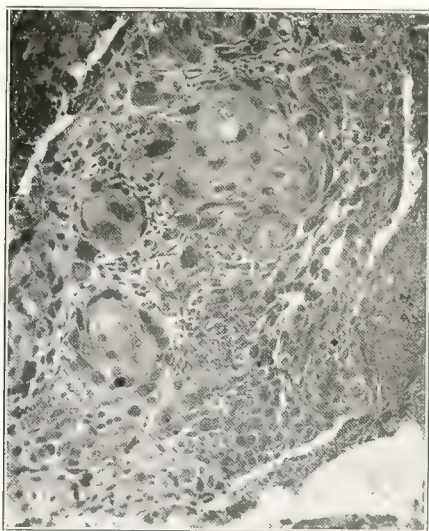
V Girl, age 20 years. Extensive bilateral multiple bronchiectasis as shown by bronchoscopic instillation of lipoiodine. Treatment of a nasal sinus suppuration has greatly improved her condition.



VI Girl, age 6 years. Extrabronchial abscess of left upper lobe with cavity formation. Clubbing of the fingers was present. The heart is apparently displaced to the left because of compensatory emphysema of the right lung. She recovered completely following 7 bronchoscopic aspirations.



VIII Same specimen under high power.



VII Microscopic photograph, low power, of carcinoma of the bronchus in a man, age 45 years. Note the typical "pearls" of squamous cells. This shows the value of direct bronchoscopic biopsy.

all probability an exciting factor. (This will be done at the end of her school year.) With such an extensive bronchiectasis in one so young it may well be presumed that this patient has a congenital type the occurrence of which Hedblom³ stresses. A secondary infection may later occur.

Comment: Bronchoscopy in these two cases was of tremendous value diagnostically by means of lung mapping. This procedure

showed immediately the site and extent of the pathology, and treatment could be directed accordingly. Contrast-media roentgenography will demonstrate these cases where usual x-ray study fails.

III. Extrabronchial abscess. The antecedent factors of extrabronchial abscess usually fall into one of these classes: 1 an acute respiratory infection, 2 general anesthesia, particularly when accompanied by surgery in the mouth or throat, 3 foreign body.

The first is, of course, a progressive type of infection. The second may operate by giving obstruction with foreign material or an infected embolus. The third is frank obstruction. Yet, in all, there is probably at first a pneumonitis before real bronchiectatic or extrabronchial tissue destruction with resulting abscess.

The following case demonstrates an excellent therapeutic response bronchoscopically.

She was a child, aged 6 years, first seen in consultation 12/3/30 because of productive cough of malodor. The history showed that the condition followed a pneumonia 9 months previously. The patient presented the typical picture of a chronic chest condition with marked clubbing of the fingers. X-ray showed what was probably a cavity in the left upper chest. Even with good stereoscopic plates it was very difficult to tell whether this was in the very lower part of the upper lobe, or upper part of the lower lobe. After several bronchoscopies we

could say positively that fetid pus was coming from the left upper lobe bronchus. The sputum was repeatedly negative for tuberculosis.

This child made a complete clinical recovery and has remained well following 7 bronchoscopic aspirations carried out at weekly intervals. She became fever-free, gained weight and the cough ceased. This course of treatment was carried out under hospital management.

Comment: This case shows what can be accomplished even in the chronic stage by conservative measures. Bronchoscopy here probably played an important part in the recovery. Also, it determined the exact location of the abscess. All such cases do not so respond. If after two months of bronchoscopic drainage there is no improvement surgical consultation certainly should be sought. Those cases which do not communicate freely with a bronchus are particularly unfavorable for bronchoscopic drainage. The aid of the chest surgeon is at times indispensable.

IV. Neoplasms. New growths in the lung are much more common than was formerly supposed. Bronchoscopy, by bringing into direct view the bronchial tree for inspection and direct biopsy, has greatly enlarged our knowledge. Three cases are tersely recapitulated.

CASE 1.—A white man under observation for nearly two years now, aged 45 years, was originally seen because of a productive cough. Bronchoscopy showed a definite stricture of the right lower lobe bronchus behind which was foul pus. Lipiodol instillation demonstrated a multiple bronchiectasis of the lower lobe. For a while he improved with occasional dilatation and aspiration. We were thrown off our guard because the first biopsy was reported as chronic pyogenic tissue. A phrenicectomy was finally advised. This was carried out under local anesthesia by our surgical consultant. The patient did not do well and was referred to the Jackson Clinic at Jefferson Hospital for consultation. Their biopsy sections were returned as squamous-cell carcinoma. When the man returned, I did a third biopsy and seven out of nine pieces showed squamous cell carcinoma. The error was mine in not taking enough tissue at the first biopsy.

This man, as a result of his phrenicectomy combined with deep x-ray therapy, has made amazing progress. His cough has practically ceased, there is no sputum, he has gained weight, and he is now up and around, whereas

before he had become bedfast and despondent.

Funk,⁴ in reviewing 61 cases, states that only one was alive after six years and most of them died in the first 18 months. It will be interesting to see the final outcome, though he already has done far better than the average. His bronchiectasis and suppuration was, of course, secondary to his neoplastic bronchial obstruction.

CASE 2.—This patient, a white man, aged 58 years, was sent for bronchoscopic examination 11/10/30. His complaint was cough and loss of weight. An unusual x-ray picture could not be accurately interpreted by either the surgeon or roentgenologist. Repeated sputum examinations were negative for tuberculosis. He was running a slight afternoon fever.

Bronchoscopy showed the left lower bronchus almost completely closed by thickened, reddened tissue. Biopsy was done. Because of its interest the pathological report is quoted: "There is an abundant engorgement of the arterioles with polymorphonuclear cells and a definite perivascular plasma cell and lymphocytic infiltrate. There is some hyalinization of the vessel walls and an endarteritis. There is no sign of neoplasm or tubercle. Some of the vascular changes are quite characteristic of lues but are not absolutely diagnostic in this specimen."

The Wassermann and precipitation tests were all 4-plus, which confirmed the above report. The therapeutic test was given and in two months the patient showed marked improvement as shown by x-ray.

A second biopsy done at this time was reported as follows: "We find no evidence of neoplasm in this specimen. There is, however, definite evidence of a chronic infection of the mucosa and submucosa. In the deeper tissues, the infiltrate and the vascular changes are characteristic but not pathognomonic of syphilis."

This man has continued to improve under treatment. This is probably, then, a true syphilis of the lung, which is rare.

CASE 3.—A man, aged 43 years, had an enucleation of the left eye done in this clinic in 1925. The pathological report was sarcoma of the choroid. This year he returned with chest symptoms and x-ray revealed extensive metastatic growths in both lungs. This case is briefly mentioned because of its interest, particularly with respect to the time interval between the primary lesion and the metastasis. The outlook is hopeless.

Comment: The first two cases well illustrate the value of bronchoscopic biopsy. The first case shows the importance of repeated

biopsy, if necessary. In the third case, biopsy, of course, was not necessary for the diagnosis, because of the previous history.

SUMMARY

Bronchoscopy in lung conditions has these advantages other than the removal of foreign bodies: 1 direct inspection of the bronchial tree for neoplasm; 2 direct biopsy if necessary; 3 direct aspiration for therapeutic and cultural studies; 4 determination with exactness of lobe involved; 5 instillation of medication; 6 the instillation of lipiodol for lung mapping. This is of greatest value in demonstrating a bronchiectasis as distinguished from extrabronchial abscess.

Phrenicectomy in a unilateral pneumonitis and unilateral bronchiectasis has given us rather dramatic results in two cases. In properly selected patients it is a safe, simple procedure and well worthwhile. This, of course, is done by the consulting surgeon. Future chest surgery that may be necessary is not contraindicated by the operation.

The closest coöperation is essential between the bronchoscopist, the internist, the roentgenologist and the surgeon. I desire to stress this point. No one means of therapy is universally successful.

Bibliography

1. HART, V. K.: Lung Suppurations from the Bronchoscopic Standpoint. *Southern Med. & Surg.*, 93:19, Jan., 1931.
2. SPECTOR, H. I.: Lung Abscess a Clinical Study with Especial Emphasis on Conservative Care. *Jour. A. M. A.*, 95:789, Sept., 1930.
3. HEDBLUM, CARL A.: Pathogenesis, Diagnosis, and Treatment of Bronchiectasis. *Surg., Gyn. and Obs.*, 52:406, Feb., 1931.
4. FUNK, ELMER H.: Clinical Manifestations of primary Bronchial Carcinoma. *Jour. A. M. A.*, 95:1879, Dec. 20, 1930.

AIR INSUFFLATION INTO THE ANTERIOR CHAMBER
(Sallmann, L., Peiping, China, National Medical Journal of China, February, 1931)

The insufflation of air in the anterior chamber after evacuating the aqueous humor, is a strong unspecific irritant. So far as the results of the fluorescein test in the closed bulbus can be judged, it makes it possible to break through the hemato-ophthalmic barrier in a remarkable degree and for a long time.

The experiment on animals shows that the manipulation can be repeated several times without any harm to the eyeball. This insufflation of air acts much more strongly and for a longer period than the subconjunctival injections of hypertonic salt solution or the puncture of the anterior chamber.

NORMAL, ABSENT AND PATHOLOGIC TONSILS IN YOUNG WOMEN

(Cunningham, R. L., Berkeley, Calif., in *Archives of Internal Medicine*, April, 1931)

One-third of 12,530 young white women who entered the University of California between 1920 and 1929 had had an operation for the removal of tonsils; one-third were thought to have normal tonsils and the remaining one-third had pathologic tonsils, remnants of tonsils or buried or projecting tonsils to which no further designation was given.

The group with normal tonsils and the group with pathologic tonsils differ by small percentages, which are statistically insignificant in the incidence of the following diseases and operations reported in the histories: measles, mumps, chickenpox, whooping cough, scarlet fever, diphtheria, pneumonia, pleurisy, chronic colds, rheumatism, chorea, operations for appendicitis, mastoiditis, cervical glands and operations on the nose.

The group with absent tonsils gave a history of higher incidence of all illnesses and operations than did either the group with normal tonsils or the group with pathologic tonsils. The fact that children who are often ill are the ones most frequently operated on is offered as a possible explanation for this higher incidence of illness.

A review of the literature relative to the effect of the condition of the tonsils on general health reveals a great lack of accurate information on the effect of tonsillectomy, when one considers the number of operations that have been performed. Opinions as to the indications for, and the value of, tonsillectomy vary widely. There is a growing tendency to question the value of tonsillectomy as a prophylaxis against infectious diseases and as a preventive measure or cure for such systemic diseases as rheumatism, chokes and carditis.

AIDS IN DIAGNOSIS, FROM THE OPHTHALMOLOGIST'S VIEWPOINT

(Walker, C. C., Des Moines, Jour. Iowa State Medical Society, April, 1931)

It used to be taught that all unequal pupils are pathologic and rather a bad prognostic sign. We know that anisocoria occurs in healthy individuals and is not always indicative of a disease of the central nervous system. If the pupil reacts promptly to direct light, then anisocoria is not a disease of the central nervous system. The anisocoria then may be a congenital anomaly or a lesion of the cervical sympathetic nerve, which is a pathologic anisocoria, but a harmless one. If the inequality is only slight it may be due to unequal illumination of the two eyes or unequal adaptation of the two retinæ to light, or very rarely, to unequal refraction of the two.

The Value of Uterosalphingography and Its Use in Conjunction With Pyelography*

DONNELL B. COBB, M.D., M.S., F.A.C.S., Goldsboro, N. C.

The visualization of some of the body cavities and hollow viscera by the use of opaque media has for sometime been an accepted diagnostic procedure. Sicard and Forestier¹⁶ in 1922 first reported the use of lipiodol as an aid in diagnosing spinal cord tumors. Sidney Forsdike³ of London was the first to inject it into the uterus as a diagnostic measure, and in 1925 he reported this method before the Royal Society of Medicine. Since then uterosalphingography has been gradually increasing in popularity as a means of enhancing the accuracy of gynecological diagnosis.

During the last few years the American and foreign literature have contained a number of interesting articles on this subject. As is not infrequently the case with something that is new, its diagnostic possibilities have been extolled beyond the point of practicability, and the dangers from its use at times have been unjustly magnified. With a better realization of its limitation, and an acknowledgement of its contraindications, it will remain an important aid in diagnosing the affections of the female pelvis. Never can it supplant a careful history and a thorough examination, and only when used in conjunction with these can it obtain its proper value.

We have employed this procedure since 1926, during which time we have found it a definite help in diagnosing most of the conditions that affect the female pelvis. It has not been our practice to use it where a definite diagnosis could be made otherwise.

Before injecting the lipiodol into the uterine cavity, the vagina must be thoroughly cleansed and surgically prepared. A bivalve speculum is used to expose the cervix, and we have not found that its presence at the time of exposing the film interferes with the desirable data on the picture. The cervix is steadied by a vulsella and it is essential that the injecting cannula be fitted with a collar that fits snugly against the cervix and pre-

vents the escape of lipiodol into the vagina until after the x-ray exposure is made. Eight c.c. of lipiodol is the amount usually employed. A previous bimanual examination to gain some idea as to the size of the uterus may indicate that this amount be decreased or increased. The only discomfort associated with the procedure is that accompanied by the passage of a sound through the cervix in determining the direction of the uterine cavity, and the slight cramping sensation that occurs when the uterus is completely filled, and somewhat distended. Having the patient on one of the standard, Bucky-equipped, urological tables will greatly facilitate the whole procedure. We have not hesitated to make uterosalphingograms on office patients, and do not believe it necessary to hospitalize a patient for the examination. On removing the cannula from the cervix, most of the lipiodol escapes into the vagina, and that which has passed through a patent tube and entered the peritoneal cavity seems to produce no symptoms. On operating upon these patients a few hours to several weeks after the injection, we have never noticed any peritoneal irritation from the presence of the oil. Neither does it irritate the epithelial lining of the uterus and tubes.¹⁸

The procedure was first employed by us as an aid in the diagnosis of the causation of sterility. But it is obvious that much information regarding many pelvic conditions can thus be obtained, and its use has widened to furnish additional and specific data in the majority of pelvic affections in which an accurate diagnosis cannot otherwise be made.

In so far as studying the patency of the fallopian tubes is concerned, it is far superior to the insufflation method as first advocated by Rubin.^{7, 13} By its use a definite outline of the normal uterus and tubes is obtained, and thus the factor of tubal obstruction can definitely be ruled out as the causative factor in sterility. Also the exact localization of the

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

FIGS. 1, 2, 3.—Uterosalingograms of normal genital organs. *A*—bivalve speculum in vagina, *B*—injecting cannula, *C*—triangular outline of uterine cavity, *D*—constricted area of tube at cornu, *E*—isthmus of tube, *F*—ampulla of tube, *G*—iodized oil free in peritoneal cavity. These three figures show different degrees of relaxation and contraction of the uterine walls, different degrees of length of the isthmic portions of the tubes, and different degrees of expansion of the ampulla. In fig. 3 only a small amount of the iodized oil has passed out into the peritoneal cavity. The deflection of the uterus to the right or left is due to traction on the cervix by the vulsella.

FIGS. 4 and 5.—From the history and clinical findings in these two cases it was impossible to make a differential diagnosis between appendicitis and salpingitis. Uterograms show the uterine cavities of normal size and shape, but the tubes are completely occluded at the cornua. Operation through a low midline incision revealed bilateral salpingitis in fig. 4, and bilateral salpingitis with secondary subacute appendicitis in fig. 5.

FIG. 6.—On presenting herself this case gave a definite history of pelvic pathology. Entire lack of co-operation made a bimanual examination untrustworthy. The uterogram revealed both tubes completely occluded at the cornua, *D*. The left cornu gave the appearance of being pressed upon and the uterus was tilted to the left. Exploration of the pelvis disclosed a large left tubo-ovarian abscess with many adhesions and right salpingitis.

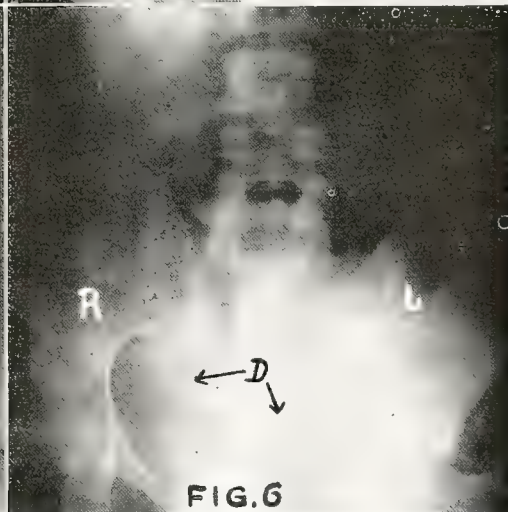
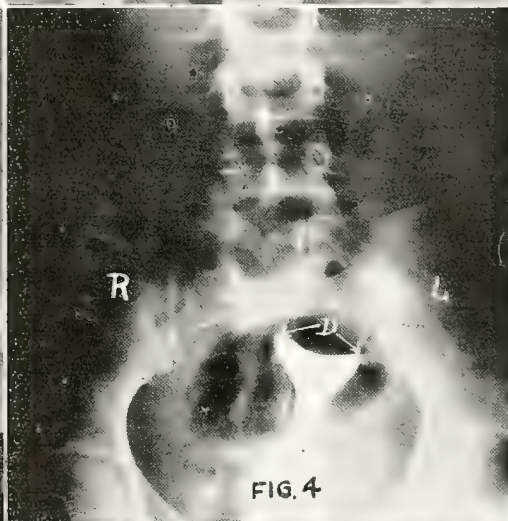
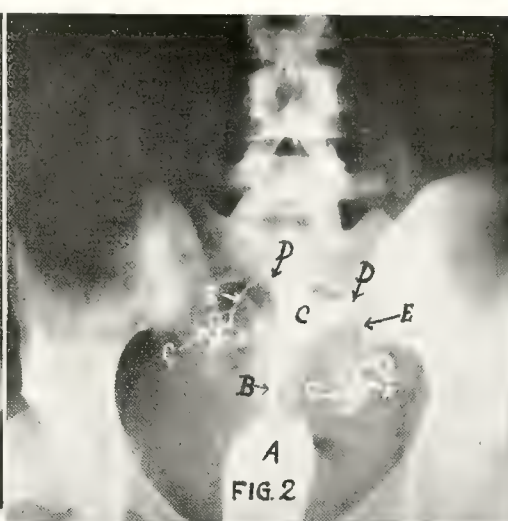
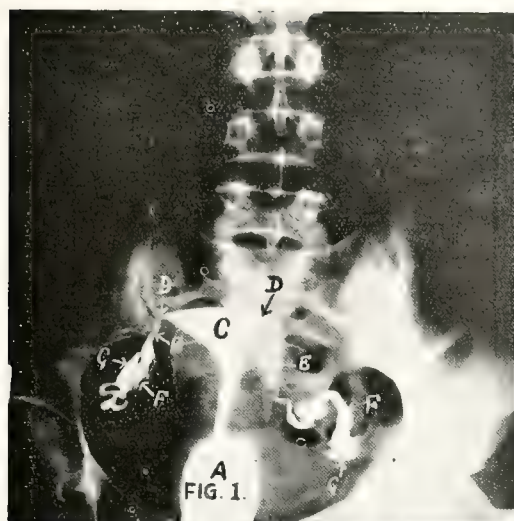


FIG. 7.—Bimanual examination disclosed enlargement, grade 2, of the left tube. A uterosalpingogram shows a small amount of iodized oil to have passed through the isthmic portion, *E*, of the left tube and contained within the ampulla, *F*, confirming the diagnosis of left salpingitis (perisalpingitis). The uterine cavity is of normal size and shape and the right tube is patulous throughout its length. Iodized oil that has passed through the right tube and into the peritoneal cavity is shown at *G*.

FIG. 8.—Again a definite diagnosis could not be made between appendicitis and salpingitis, although the latter seemed more probable. The uterosalpingogram reveals normal genital organs, thus justifying a McBurney incision through which an acutely inflamed appendix was removed. For explanation of the letters, see the legend for fig. 1.

FIG. 9.—A young, unmarried girl presented herself with a symmetrical tumor arising from the pelvis and extending above the umbilicus. Although she insisted that her menstrual periods had been regular, the cervix uteri was quite soft and discolored. The uterosalpingogram removed all suspicion of pregnancy, showing a normal uterine cavity markedly displaced to the left, and both tubes well open. At operation a six-pounds ovarian cyst was removed.

FIG. 10.—Clinical examination revealed a large tumor arising from the pelvis and extending up to the umbilicus. The uterogram disclosed a much distorted uterine cavity, *C*, displaced to the left, and both tubes closed at the cornua. At operation, a large cyst arising from the right ovary was found, and both tubes were bound down in an old inflammatory mass.

FIG. 11.—This patient had had a normal delivery two weeks previously. Eight days later there was a rather sudden onset of chills and high fever. Clinical examination was negative except for marked leucocytosis and pyuria, which did not seem sufficient to account for the symptoms. A bimanual examination revealed nothing abnormal. With catheters, *U*, in each kidney pelvis, for the treatment of the bilateral pyelitis, a uterosalpingogram was made. This showed the left side of the uterus to be abnormally filled, *X*. A dilatation and curettage was done, removing a mass of hard, necrotic tissue from the left side of the uterus. For explanation of other letters see the legend for fig. 1.

FIG. 12.—This patient had had a dilatation and curettage under adverse circumstances in her home following an incomplete miscarriage. A perforated uterus was suspected at the time of consultation, but a co-existent acute cholecystitis clouded the diagnosis. An x-ray study revealed a large perforation, *X*, in the fundus with a large amount of iodized oil free in the peritoneal cavity, *G*. Free oil was also shown in the vagina, *H*. With closure of the perforation and free drainage, recovery was rapid.

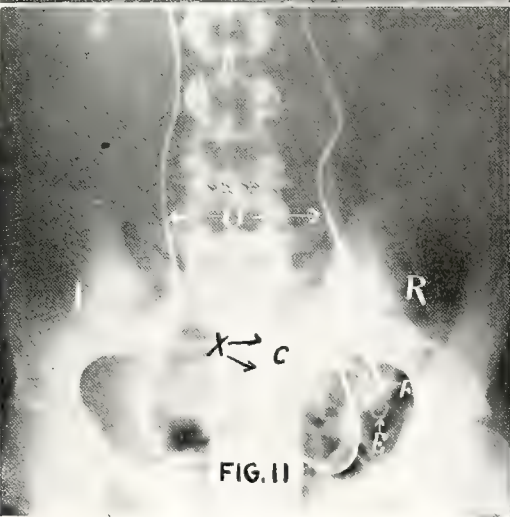
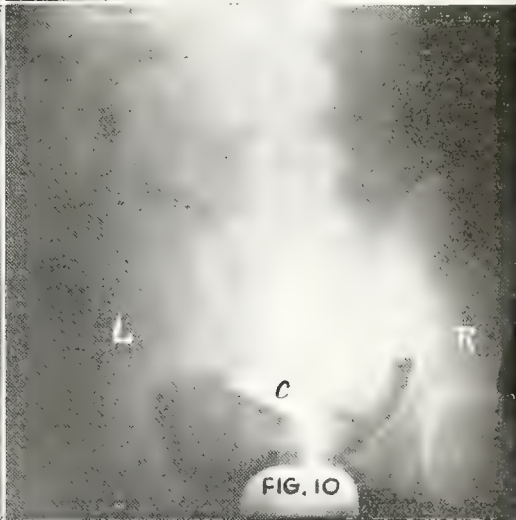
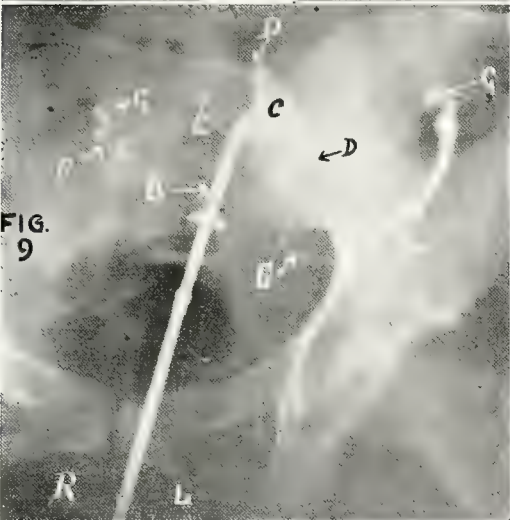
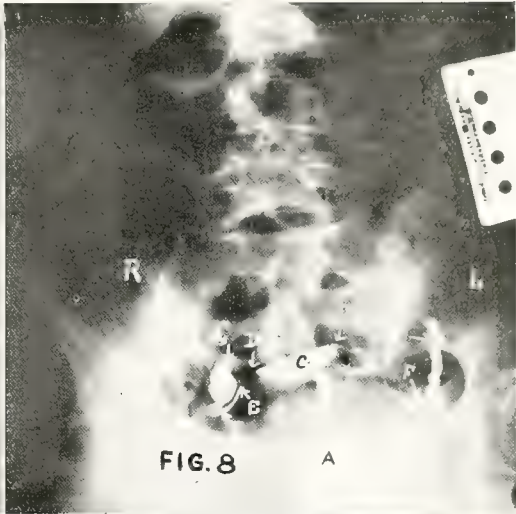


FIG. 13.—This uterosalpingogram shows a prominent indenture at the top of the fundus. The encroachment on the uterine cavity, *X*, was due to a submucous fibroid, the condition suspected on physical examination. Recovery from menorrhagia was complete following intrauterine radium therapy by Dr. H. B. Ivey.

FIG. 14.—Uterosalpingography confirmed the clinical diagnosis of uterine fibroid. Both tubes are entirely open, but the uterus is displaced in a horizontal position and the uterine cavity, *C*, is being encroached upon at *X*. Operation revealed a fibroid which was removed by myomectomy.

FIGS. 15 and 16.—These uterograms delineate the bizarre distortion of the uterine cavity, *C*, from multiple fibroids.

FIG. 17.—This patient, aged 44 years, gave a history of uterine bleeding and profuse, irritating, and foul leucorrhea for two months. Clinical examination was negative. A uterosalpingogram disclosed a uterine cavity of normal size, but with a diffuse moth-eaten appearance. A panhysterectomy was performed on the diagnosis of malignancy, and a pathological study showed alveolar carcinoma.

FIGS. 18, 19 and 20.—These uterosalpingograms show the various pictures to be had in pregnancy. Fig. 18 shows the lipiodol diffusely placed between the uterine wall and the fetal structures, *C*. This patient was so obese that a pelvic examination was impossible. The menstrual history suggested pregnancy of one month with an incomplete miscarriage. The fetal structures were removed by curettage. Fig. 19 shows the iodized oil between the uterine wall and fetal structures, *C*, in a case of three-months pregnancy in which therapeutic abortion was indicated. This patient represented by fig. 20, presented herself with sudden, stabbing pain in the lower right quadrant, the last menstrual period having been three months previous. Examination showed marked muscular rigidity of the right, lower abdomen, and exquisite tenderness to the right side of the pelvis. A large mass was palpable in the right side of the pelvis, but, on account of the intense pain, a satisfactory palpation could not be made. Clinically, the case seemed to be one of ruptured ectopic pregnancy. A uterogram showed the iodized oil to be confined just within the internal os and pushing the membranes upward. This changed the diagnosis to normal pregnancy and acute appendicitis. An acutely inflamed appendix was removed through a McBurney incision.

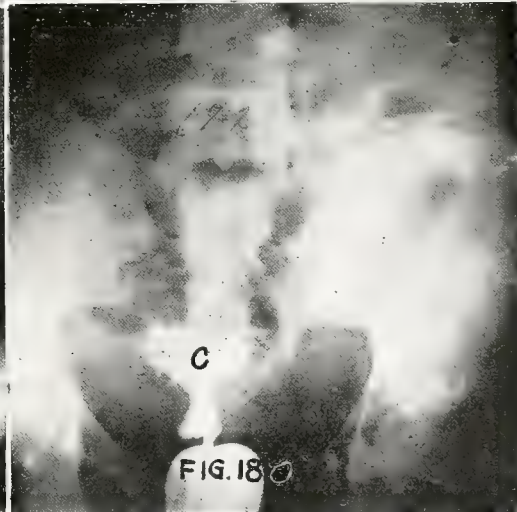
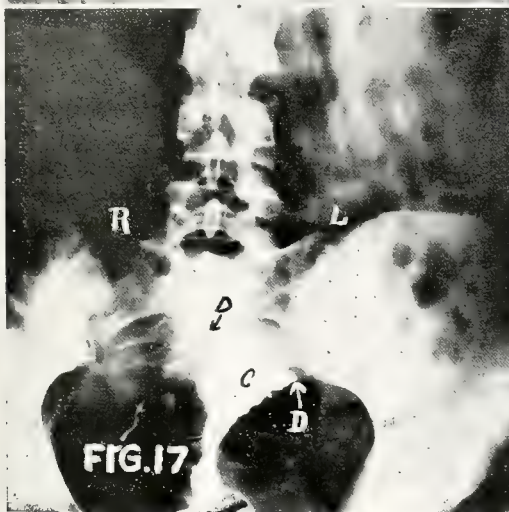
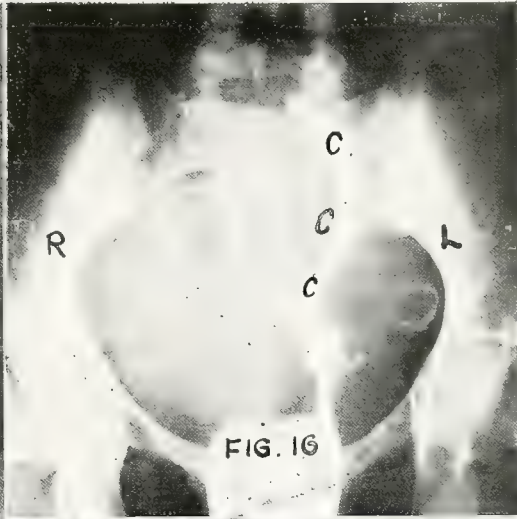
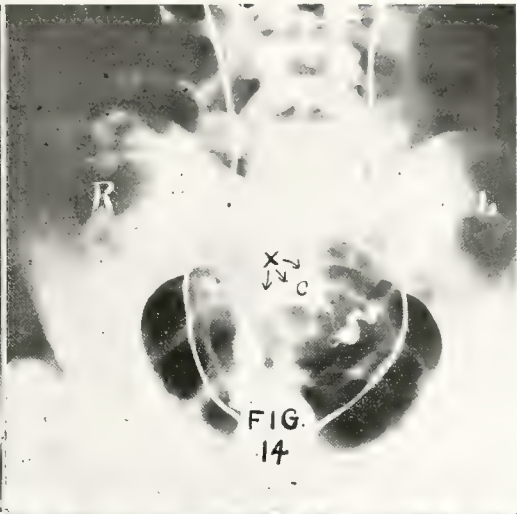
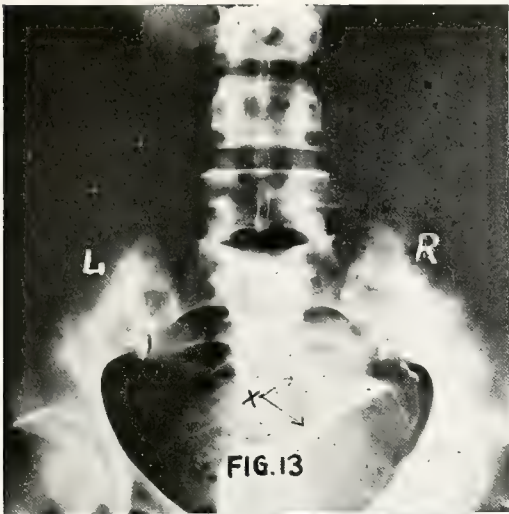
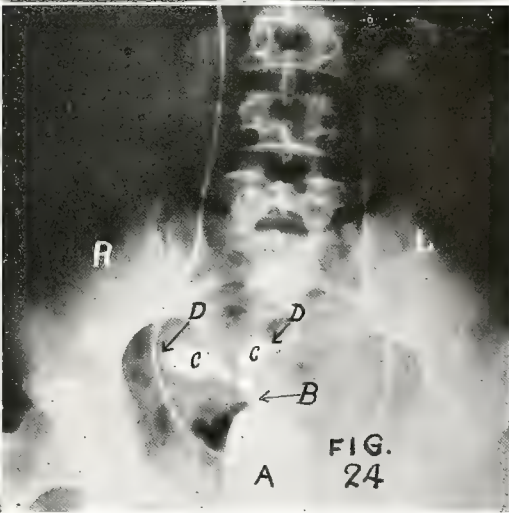
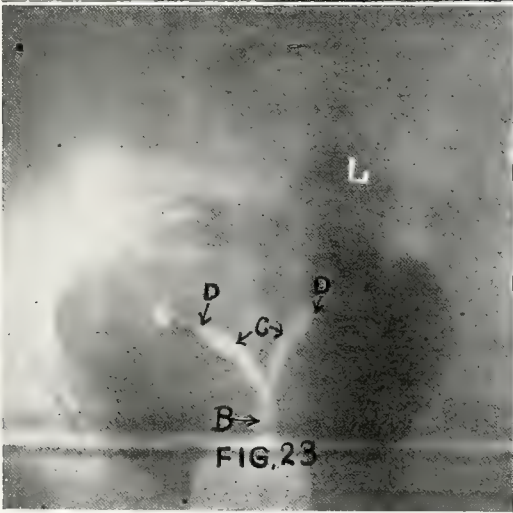
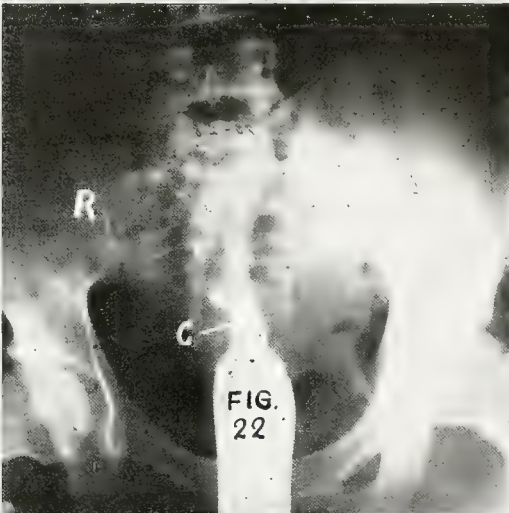
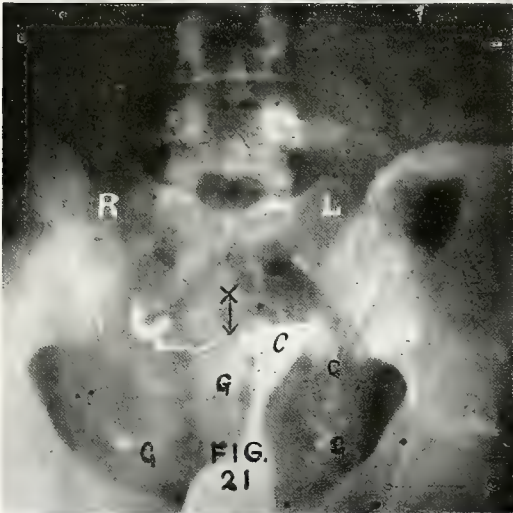
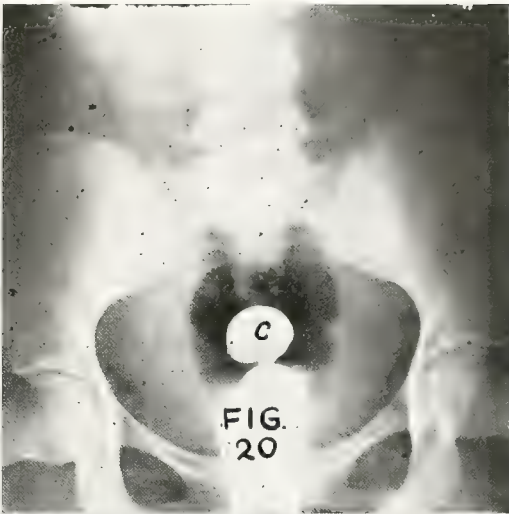
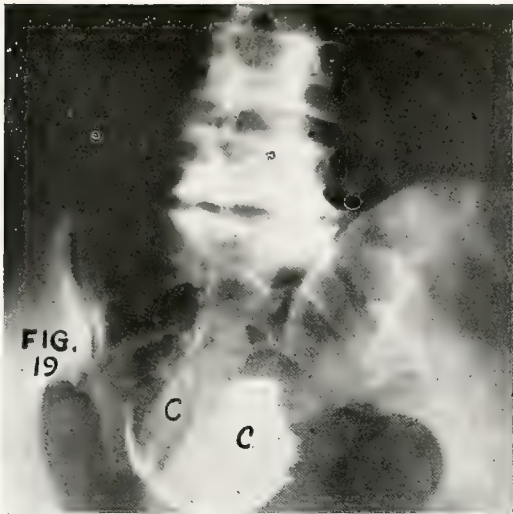


FIG. 21.—This is a case of ruptured tubal pregnancy. The uterosalpingogram shows a rupture in the isthmic portion of the right tube, *X*, with iodized oil free in the peritoneal cavity, *G*.

FIGS. 22, 23 and 24.—Uterosalingograms of congenital abnormalities. Fig. 22 shows a uterus unicornis. This patient was 19 years of age, had been married for two years, had never menstruated and presented herself with the complaint of sterility. A complete examination revealed no endocrine deficiency other than the amenorrhea. Pelvic examination showed an infantile cervix and the uterus could not be palpated. The uterine horn, *C*, that is present is exceedingly small and there is no corresponding tube. This patient, of course, was given a definite prognosis of permanent sterility. Fig. 23 shows a uterus bicornis, *C*, the right tube, *X*, is patulous, but the left tube is completely occluded at the cornu, *D*. This patient was 30 years of age, had been married six years and complained of sterility. One year after this examination she became pregnant in the right horn of the uterus but miscarried at six months. Fig. 24. This patient was examined and operated upon for a dermoid cyst of the right ovary, the right tube being bound densely into the same inflammatory mass. The uterosalpingogram is very suggestive of a bicornate uterus, *C*. At operation, however, the uterus was normal in appearance except for a slight indenture at the top of the fundus; a case of pronounced septate uterus. She was 30 years of age and had had one normal delivery at full term, followed by one miscarriage at two months.



occlusion, when present, can be shown, which is most important if salpingostomy is to be considered. (*Figs. 1, 2, 3.*)

In those cases presenting the symptoms of chronic salpingitis, but in which a bimanual palpation still leaves the examiner in doubt, an x-ray study of the uterus and tubes will decide the diagnosis. Either there will be a complete blockage to the flow of lipiodol, as when the inflammatory process involves the entire tube, or the lipiodol may be seen to extend through the lumen of the tube as a fine, irregular line, suggesting perisalpingitis with partial occlusion. (*Figs. 4, 5, 6, 7.*) In the differential diagnosis of chronic appendicitis and chronic salpingitis, it may not infrequently be the only means by which a definite preoperative diagnosis can be made. (*Fig. 8.*) We have used the procedure in 30 cases of salpingitis and have noticed no bad effects. We believe, however, in the average run of these cases, it is unjustifiable to risk the possibility of thus carrying an active infection into the peritoneal cavity. Claims have been made as to the therapeutic efficacy of the lipiodol in cases of salpingitis, but actual proof is lacking.^{4, 8, 14} In those cases of acute salpingitis which have been subjected to this procedure without untoward effects, the reason for the absence of more or less serious consequences is, in all probability, due to the fact that the tubes were completely occluded at the cornua, and thus the oil was prevented from passing through the tubes and carrying infection into the peritoneal cavity, rather than from any curative effect of the oil itself on the inflammatory process.

In those cases presenting a cystic mass situated laterally in the pelvis a uterosalpingogram may be used to make a definite diagnosis between an enlargement of the tube, as in hydrosalpinx, and an enlargement of the ovary, as in cyst formation or dermoid growth. In the latter, the tube may also be occluded, it is true, but often it will appear normal, or will be greatly elongated and drawn out and displaced over the ovarian mass. (*Figs. 9, 10.*) Whereas, such a fine preoperative distinction in a condition that is obviously surgical may appear, and, at times is, of academic interest only, yet not infrequently the patient is most inquisitive regarding the condition of the ovaries, and will not accept the needed operation until a positive

diagnosis can be made as to the exact nature of her condition.

In studying conditions of the uterus itself, uterosalpingography offers a very definite help. When there is a question as to the possibility of retained secundines following delivery and where a definite conclusion can not otherwise be reached, a uterogram will show the presence of retained material by an irregularity in the outline of the uterine cavity. (*Fig. 11.*) And at times, where a dilatation and curettage has been done under adverse circumstances, and the subsequent course is not satisfactory, and yet there are other complicating factors in the case which make it impossible to say whether the uterus has been perforated, a uterogram will confirm or exclude the possibility of a perforation and enable intelligent treatment to be instituted. (*Fig. 12.*)

Uterine fibromata as a rule present no difficulty in diagnosis. Yet a uterogram will show a submucous growth that it had been impossible to palpate, and in cases of obesity, where bimanual examination is most unsatisfactory, an x-ray study of the uterus may reveal the presence of intramural or subserous growths.^{9, 12} In those cases presenting themselves with a history suggestive of uterine fibroids, and in which the usual examinations do not allow a satisfactory diagnosis to be made, a uterogram will frequently clarify the existing condition. (*Figs. 13, 14, 15, 16.*)

Some objection has been raised to the use of uterosalpingography in cases of suspected malignancy of the body of the uterus on the grounds of possibly carrying cancerous cells through the fallopian tubes into the peritoneal cavity.⁸ Theoretically, of course, such a thing is possible. Yet it appears that the danger of disseminating cancer by this procedure is much less than by the usual diagnostic curettage, following which the uterine cavity contains innumerable unattached masses of cancerous cells which might possibly be carried along through the fallopian tubes to the peritoneal cavity, or be picked up by the recently opened blood and lymph spaces in the uterine wall. Cancer of the body of the uterus presents a characteristic moth-eaten appearance in the uterogram, which finding, along with a suggestive history, justifies the diagnosis. (*Fig. 17.*) A curettage by removing tissue for microscopic study,

permits a more absolute diagnosis, and still is the procedure of choice in those cases containing a large element of doubt.

There have been, and still are, advocates of the use of uterosalpingography in the diagnosis of early pregnancy, but in this connection the procedure is losing favor.^{1, 6, 8.} While it is easily possible to diagnose doubtful cases of pregnancy in this way, miscarriages have been reported following its use.^{5, 11} A uterogram of a pregnant uterus will show the lipiodol irregularly placed between the uterine wall and the fetal structure, or if the pregnancy is advanced, the entire amount of the injected oil may remain just within the cervix, being prevented from entering into the cavity of the body of the uterus by the close contact of the membranes with the uterine walls. Rarely is a diagnosis so urgent in a case of suspected pregnancy as to justify the risk of miscarriage subsequent to this procedure. As a rule, it should be reserved for those cases in which, if pregnancy is present, there is a definite pre-existing indication for its termination. (Figs. 18, 19, 20.) In cases of ectopic pregnancy in which the diagnosis is in doubt, it will offer a distinct aid by showing the tube to be occluded, much dilated or ruptured.¹⁰ (Fig. 21.)

In cases of uterine abnormalities, uterosalpingography offers the most accurate means of diagnosis. With its use many cases of amenorrhea, sterility, and frequent miscarriages can be readily explained by such findings as infantile uterus, uterus unicornis, and bicornis, and septate uterus. (Figs. 22, 23, 24.)

The use of uterosalpingography combined with pneumoperitoneum and with cystography has been advocated as a means of obtaining even more specific diagnostic data. In the female the genital and urinary systems are most closely associated and at times an infection that occurs in one will extend to involve the other. Diseases of these two systems give rise to similar symptoms. Not infrequently it is very difficult to determine by the usual examinations whether the presenting complaints are genital or urinary in origin. A simultaneous study by combining uterosalpingography with pyelo-ureterography will at times prove very helpful. When such is the case, it is well to proceed with a thorough urological investigation to be concluded with

a pyeloureterogram combined with a uterosalpingogram. This can be done at the time, on the same x-ray film, and essential data secured on the two very important systems with a saving of time and expense to the patient. (Fig. 25.) We have been unable to find any reference in the literature on this combined procedure. Having first done it in 1928, we have found it extremely helpful in 45 cases and have witnessed no disagreeable effects. Cases of salpingitis and pyelo-ureteritis, with or without stone, can thus be definitely differentiated or their co-existence proved. (Figs. 26, 27, 28, 29, 30.)

SUMMARY

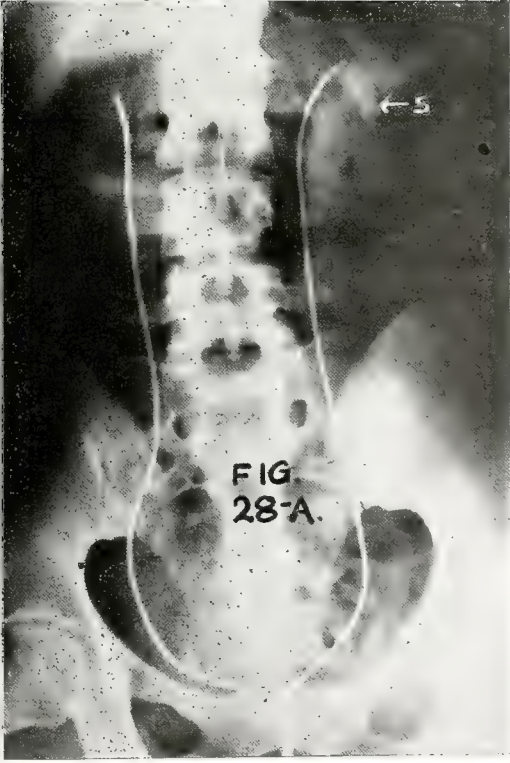
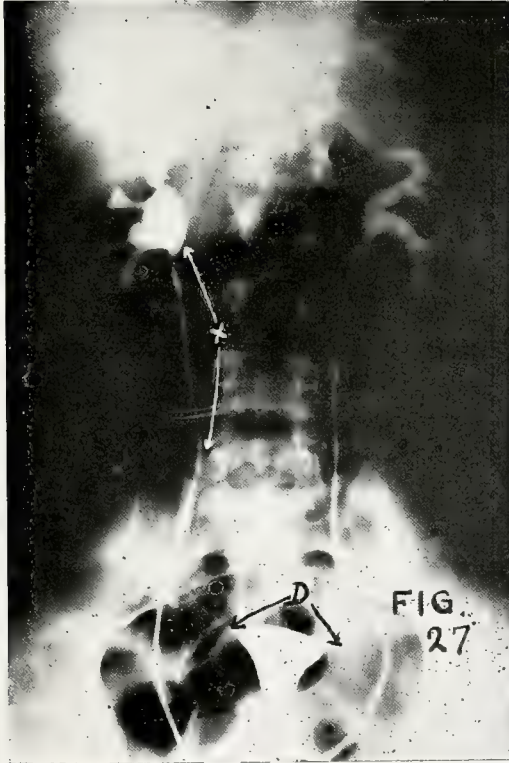
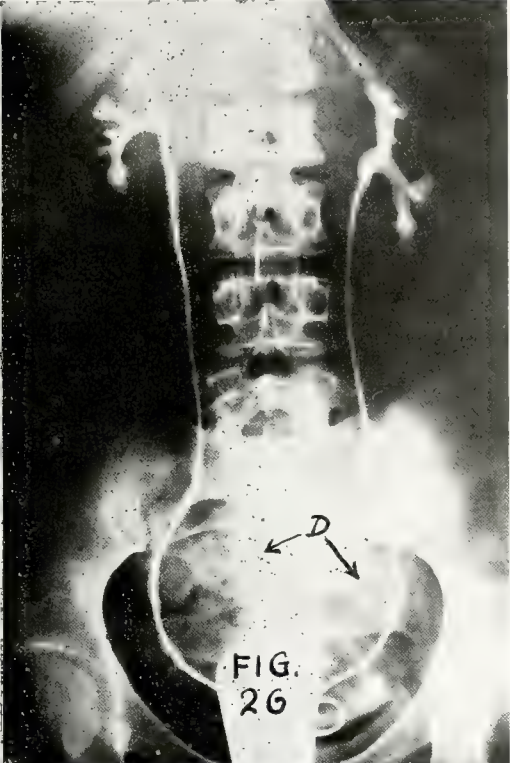
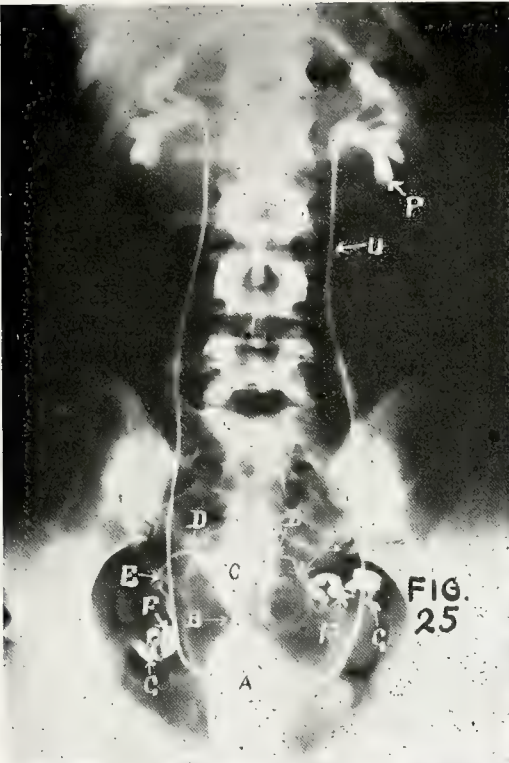
Uterosolpingography is most helpful in diagnosing obscure conditions affecting the uterus, tubes and ovaries. Like any other diagnostic procedure, its fullest value will be obtained by becoming familiar with the procedure and knowing its shortcomings. It is not infallible. Its use should be discouraged in acute pelvic infections, in active uterine hemorrhage, immediately following a dilatation and curettage, and in suspected pregnancy where an immediate diagnosis is not imperative or a therapeutic abortion indicated. Combined uterosalpingography and pyelo-ureterography is at times most helpful in securing additional information and in properly selected cases has produced no bad effects.

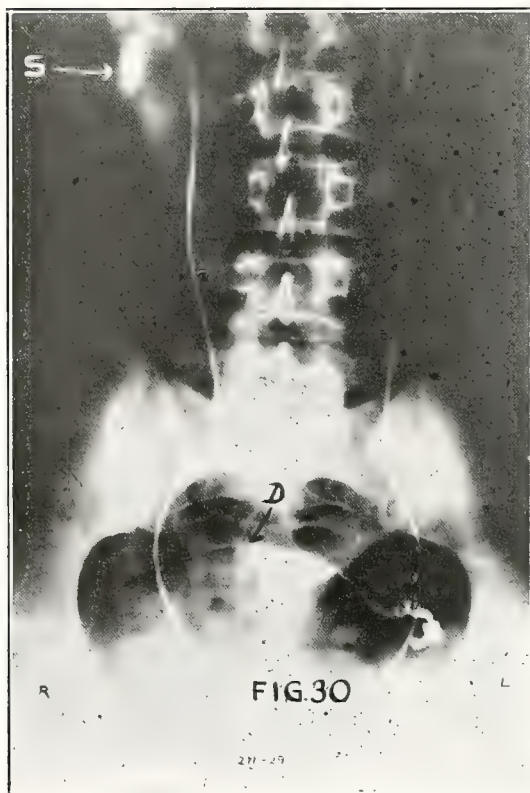
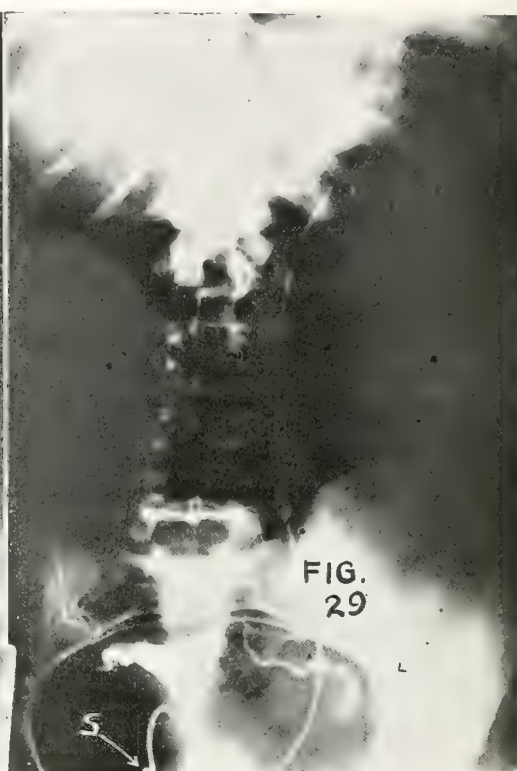
Bibliography

1. BROCOQ, P., and BECLERE, C.: Du diagnostic de certaines malformations uterines par l'examen radiologique avec injection de lipiodol. *Medicine*, 1928, 9:525-526.
2. DARBOIS and BECLERE, C.: Cent examens radiologique avec injection intra-uterine de lipiodol. *Bull et mem. Soc de Radiol. Med. de France*, 1928, 16:29-33.
3. FORSDIKE, S.: The investigation of the uterus and Fallopian tubes by air and opaque bodies in sterility. *Proc. Roy. Soc. Med.*, 1925, 18:77.
4. GREENE, E. H., and PENDERGRASS, R. C.: Injection of uterus and Fallopian tubes with iodized oil as aid in diagnosis. *J. M. A. Georgia*, 1927, 16:401-407.
5. HASELHORST, G.: Ist die hystero-graphie eine ungefahrlche untersuchungsmethode? *Zentral bl. f. Gynak*, 1927, 51:1821-1824.
6. HEUSER, C.: Lipiodol in the diagnosis of pregnancy. *Brit. J. Radiol.*, 1926, 31:110-113.
7. JARCHO, J.: Uterosolpingography. *Surg., Gynec. & Obst.*, 1928, XLVI:752-768.
8. IDEM: Uterosolpingography. *Am. J. Surg.*, 1929, VI:693-719.

FIG. 25.—Normal uterosalpingogram combined with normal bilateral pyeloureterogram. Such a procedure I believe to be harmless and in certain cases extremely valuable from the standpoint of differential diagnosis. The ureterograms, *U*, give definite knowledge of the relation of the ureters to any pelvic pathology, and the pyelograms, *P*, will help to exclude any kidney pathology in those doubtful cases presenting symptoms of the urinary and genital systems. For explanation of other letters, see legend for fig. 1.

FIGS. 26, 27, 28, 29 and 30.—The symptoms in these cases were referable to both the urinary and genital systems. Pyuria was a constant finding and there were also findings suggestive of genital pathology. Fig. 26 shows a case in which the urinary symptoms and pyuria were due to a trigonitis, the pelves and ureters being normal. Both fallopian tubes closed, *D*. At operation bilateral salpingitis was found. Fig. 27 shows a dilated right pelvis and ureter, *X*, which was associated with much infection. Both tubes closed, *D*, and operation confirmed the diagnosis of bilateral salpingitis. Fig. 28, *A* and *B*, shows a stone in the left kidney pelvis, *S*, which was removed. The uterus, *C*, is drawn to the right by adhesions, both tubes, *D*, having been previously removed. A film should always be exposed with the ureteral catheters in place (*Fig. A*) before injecting the kidney pelves and uterus for the second exposure (*Fig. B*). Fig. 29 shows an impacted stone, *S*, in the right lower ureter which was removed. On physical examination there was extreme tenderness throughout the right side of the pelvis. The outline of the uterus and tubes is normal. Fig. 30 shows a stone, *S*, in the right kidney pelvis, which was removed. There was marked tenderness and a small mass in the right side of the pelvis. The right tube is closed, *D*. Pelvic operation was refused.





9. MATHIEU, A.: Lipiodol as a diagnostic aid in fibromata of the female genital tract. *Am. J. Surg.*, 1929, VI:720-724.

10. IDEM: The use of lipiodol as a diagnostic aid in gynecology. *Northwest Med.*, 1928, 27:222-226.

11. MILLER, H. A., and MARTINEZ, D. B.: Iodized oil in the diagnosis of pregnancy. *Radiology*, 1928, 11:191-193.

12. MOCQUOT, P.: Radiologic examination of uterine cavity. *Rev. de Chir.*, 1925, 63:563-575.

13. NAHMMACHER, H.: The possibilities of hysterosalpingography as a diagnostic and therapeutic measure. *Surg., Gynec. & Obst.*, 1929, XLVIII:33-43.

14. PETIT-DUTAILLIS, P., and SOREL, A.: Contributions diverses a la radiographie pelvienne etats d'hypercinesie et d'hypotonie musculaire de l'uterus et des trompes. *Bull. Soc. d'obst. et de gynec.*, 1928, 17:490-504.

15. SCHULTZE, G. K. F.: Die Grundlagen der Hysterosalpingographie. *Ztschr. f. Geburtsh. u. Gynak.*, 1928, 93:634-657.

16. SICARD, J. A., and FORESTIER, J.: Methode Generale d'exploration radiologique par l'huile iodie. *Bull. et mem. Soc. de chir. de Paris*, 1922, LXVI: 463.

17. STEINHARTER, E. C., and BROWN, S.: Uterocystography. *Am. J. Obst. & Gynec.*, 1929, 18:259-260.

18. ZIMMERMANN, R., and NAHMMACHER, H.: Ist bei der hysterosalpingographie eine lokale oder allgemeine Schädigung durch das Iodipin als Kontrastmittel zu befürchten? *Fortschr. a. d. Geb. d. Röntgenstrahlen*, 1927, 36:572-581.

DISCUSSION

DR. H. B. IVEY, Goldsboro:

I shall not attempt to add anything to Dr. Cobb's paper from a diagnostic standpoint, but there might be just a few things I could say from the standpoint of the roentgenologist. The technic, of course, of these pictures all roentgenologists are familiar with; it is just the standard Bucky technic. These pictures were taken on the standard Brady urological table, at 25-inch distance. Just the usual Bucky technic was used.

You know, up to 1919 the roentgenologist had very little to offer the patient who offered herself for any genital examination. I believe it was about that time that Stuart and Stein introduced pneumoperitoneum. This procedure, however, did not gain widespread popularity, due to its being a difficult procedure and one offered with some dread, particularly by the roentgenologist. However, we were able by this method to outline in some cases the pelvic organs. Just a few years later, however, different materials were used for injection of the uterus, for instance, bismuth, the iodides, collargol, some of the metal salts; but these all seemed to be toxic, and their use was not widespread. It was not until 1925, I believe, that lipiodol was used. Lipiodol, I believe, is now almost universally used in the study of these cases.

I might say just a word about the safety of the procedure. I remember when we first began using this and said something about it we were pretty severely criticised and were warned that we would push infection from the uterus into the peritoneal cavity. I might say that on the utero-ureterogram or uterosalpingogram we have used it in some 250 cases. Of course, in the combination pictures that you see we do not use lipiodol in the kidney but still use sodium iodide. So far we have not had one single untoward result. A good many of these patients have gone on to operation, and we have failed to find any evidence of irritation in the peritoneal cavity. Of course, that is a small number of cases by which to be guided, but at the same time I would consider it more or less a safe procedure.

I believe we were the first to do this combination of methods. In a search of the literature I have been unable to find where the combination of the two procedures has been done. Of course, that has nothing to recommend it except the economy. Taking it from an economic standpoint, it is certainly appealing to the roentgenologist. Of course, I expect that would make very little difference in Virginia or out in St. Louis, but down in North Carolina it seems the medium of exchange has about vanished, and where you have a clinic and have a large number of cases to do, to investigate the kidneys and ureters and genital organs, the procedure will certainly appeal to you from an economical standpoint.

I want to say in closing that this procedure does not belong in the armamentarium of the roentgenologist; it belongs to him only in association with the gynecologist.

PROGNOSIS IN HEART DISEASE

(Willius, F. A., Rochester, in *Minnesota Medicine*, May, 1931)

Marked enlargement, particularly when dilatation exceeds hypertrophy, frequently ushers in severe heart failure and death.

Murmurs are important signs in the diagnosis of the type of lesion, but do not deserve the emphasis they have received in the past. Murmurs are frequently evanescent; particularly those accompanying increases in rate of circulation such as occur in anemia, hyperthyroidism and pyrexia.

The murmurs of greatest significance are those of mitral stenosis and aortic insufficiency. Prognosis does not depend on the murmur itself, but on the fact that the murmur in question indicates a valvular lesion, and the outlook is governed by the condition of the myocardium as influenced by the valvular lesion.

Gallop rhythm and heart tones that are distant and lack definition and differentiation indicate a marked degree of myocardial fatigue.

Cardiac arrhythmia of itself does not necessarily increase the seriousness of the prognosis, but it often occurs when heart disease is well advanced. This is true of auricular fibrillation, one of the most common and significant disorders of rhythm.

Premature contractions do not affect prognosis except as they occur in conjunction with serious disease of the heart. They are common in perfectly normal hearts. *Pulsus alternans* is always a very grave prognostic sign, usually is soon followed by death, and is indicative of marked impairment of cardiac function.

The prognosis with complete heart-block is, as a rule, unfavorable, particularly when associated with attacks of the Stokes-Adams type. The fact that most of these conditions are the result of coronary disease implies the existence of a pathologic process progressive in nature. Any disorder that may profoundly affect the brain, such as occurs during the Stokes-Adams seizures, may result in sudden death.

The prognosis of paroxysmal tachycardia depends chiefly on the type of tachycardia, and on whether or not associated organic cardiac disease exists. When associated heart disease is present, the prognosis is largely that of the underlying cardiac disease.

Somewhat Prepared

"I never saw but one man," said Uncle Bill Bottletop, "that I thought had a chance foolin' with boot-leg liquor. He was a sword-swallower and his wife was a snake-charmer."—*Washington Star*.

Fractures of the Spine*

M. H. TODD, M.D., Norfolk, Va.

Sarah Leigh Hospital

The paper which I now have the honor of presenting to you, suggests by its title a subject of very limited general interest. Fractures of the spine are apt to be regarded as of rare occurrence, resulting only from overwhelming violence, and usually ending in helpless paralysis relieved only by death. Thus the general practitioner, and I assume that many of you are covering the whole field, might hardly expect to see in his entire practice, more than one or two fractures of the spine.

It is quite true that there is an important group of spine fractures that corresponds to this conception; but there are other groups of cases that are considerably more frequent, and that may result from quite ordinary modes of injury, not necessarily unduly violent; and in which paralysis does not occur. Such cases are often difficult to recognize at first sight; they give much trouble later on. They are frequent enough to probably come under the observation of all of you, whether or not you are limiting your practice to surgery. This fact is my reason for presenting the subject before the general body of this society.

I shall not take up cervical fractures, but consider only those in the dorsal and lumbar regions.

Briefly there are three groups of fractures of the spine generally met with: first, fractures of the lumbar transverse processes, which usually result from direct contusions over the fracture; second, the compression fractures, which by contrast result from indirect violence; and third, fractures with paralysis, which may be produced by severe trauma in either fashion.

I have here studied a group of 100 fractures of the spine, which form part of a series of 1,000 fractures of all sorts under my own care, occurring in a mining region with a centralized surgical service. The frequency of spine fractures in such a region is of course

much greater than in ordinary places; this fact has permitted the present study.

FRACTURES OF THE LUMBAR TRANSVERSE PROCESSES

(31 in this series)

These are caused by a direct blow over the lower back; so that the patient will complain of some localized pain and tenderness, and will perhaps show other signs of contusion over the fracture. The symptoms are often trivial at first, and the patient may not at once stop work.

Diagnosis is made by the x-ray; the film should be clear and sharp.

Treatment.—The disability from this injury is in general about the same as from fracture of a rib, which indeed it resembles in many respects. The treatment is similar—rather tight strapping with broad adhesive, well above and below. It is best for the patient to remain in bed for several days, I think; after a week he will decline to stay there any longer, and may walk about slowly. No strain on the back should be permitted until there is time for union to take place. Light work may usually be done after a month or so, but full duty best not for two months.

It is wise to explain to the patient that whereas he has cracked a little bone near his spine, like a rib, his back-bone as such is not hurt. Otherwise a very troublesome neurosis may develop, to say nothing of actual malingering; and a later claim for entirely disproportionate disability may be made. This is a reason also for employing only the adequate but simple treatment noted above, as Forrester has emphasized in his thorough work on traumatic surgery.

Bony union of the fractures will generally occur, with restoration of normal contour; whether or not it occurs, there will be no residual disability in general, for the little tip of bone buried in the thick lumbar muscles of course does no harm.

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

I wish at this point, however, to enter a word of caution; certain of these fractures are caused not by direct contusion, but indirectly by twisting or sidewise bending of the spine, as described by Campbell; the bone is broken by ligamentous pull, and the ligaments are apt to be damaged as well. It is entirely possible for scoliosis to develop later on, and the back may be permanently weakened. This happened in one case in this series, even though a cast, and later a brace, was faithfully worn.

In this special variety of transverse process fracture, I find myself therefore in disagreement with Forrester, for I am sure that all such cases would be better accepted as seriously hurt and given the benefit of prolonged support. They were uncommon in my series, most of the fractures being caused by direct contusion. I am sure that it is very important to differentiate the two varieties.

To recapitulate, fractures of the lumbar transverse processes may occur from any direct contusion over them; symptoms may be trivial at first; and the fracture may be overlooked unless specifically sought. If there is any question, an x-ray is to be made, both for the sake of accurate diagnosis, and to forestall legal troubles later.

COMPRESSION FRACTURES

(49 in this series)

(Fig. 1)

This group is much more serious. Compression fractures are caused by indirect injury, in contrast to the general run of transverse-process fractures discussed above. The cause is a sudden flexion of the spine, as when the head is caught and forced down between the knees. This happens when a teamster drives under a low barn-door, or when a heavy weight falls on the shoulders. The fracture may also occur from falls, landing in a sitting position; and according to Osgood, from falls landing on the feet, especially if from a sufficient height to break the heel-bones. The fracture may of course occur in automobile wrecks; and it is even possible for it to be caused by riding over a sudden jolt, a "thank-ye-mum." I have not personally seen such a case, but I would look with reserve upon a diagnosis of spinal neurosis after such an injury.*

You will see that the fracture is to be suspected after a variety of accidents; all, how-

ever, with the same common feature—a sudden flexion of the trunk, or axial compression of the spine. A special instance of the injury is to be seen when the trunk has been compressed and flexed so that there is traumatic cyanosis, or so that the sternum is injured by indirect violence; and the physician is to be on his guard in such a case, lest he fail to note a simultaneous compression fracture of the spine.

Symptoms.—The symptoms, clear enough if looked for in transverse-process fractures, are in compression fractures unfortunately not clear at all. The patient will complain of the contusion on the shoulders or the back of the neck, or may complain only of the front of the chest; or the presence of traumatic cyanosis may divert further examination. On the other hand, the injured person may walk about with little discomfort, make no complaint of his back, and indeed decline to credit the statement that he has sustained any particular injury. He may continue to work for a time after being hurt. All the symptoms, in other words, are calculated to throw the examining physician off the track, and to divert his attention away from the spine.

If the symptoms are thus misleading, however, the signs are usually somewhat easier to make out. Careful examination of the back will generally reveal a definite enough kyphosis, or some flattening of the lumbar lordosis that can be made out fairly well. And deep thumping fist percussion will generally determine a localized tender area, in the lower dorsal or upper lumbar region, where the fracture usually takes place. But I wish to emphasize that it is necessary to look for these signs without much help from the patient, who will often not complain of his back at all until later; so that when he does complain after some weeks, his case will generally be classified as a neurosis.

Even with particular care and attention, it is not difficult to miss the diagnosis. No less than six cases in this, my own series, failed of recognition until some little time had elapsed, even several weeks. I wish to direct particular attention to this point; for I was on the lookout for such injuries; and the fact that I completely overlooked such a large number until later, gives additional emphasis to the difficulty of diagnosis. Cotton calls

attention to this fact, in his statement that many are never recognized until they come before him as referee of a final board for adjustment of compensation.

If recognized and adequately treated, the injury is recovered from with rather little disability—less than 25 per cent to the body. If undiscovered, the deformity may progressively increase, with the syndrome of disability described by Kummel. I have come across one such case.

Diagnosis.—Diagnosis is made by taking a clear x-ray picture, using the Bucky diaphragm, the lateral view being especially important. Sometimes there is doubt, and the film may require to be repeated, then or later. Examination of the film with a lens, either diminishing or magnifying, or with both, will help. The fracture is generally evident enough, the body of the vertebra being found wedge-shaped (*Fig. 2*); but sometimes only the top will be a little mushroomed (*Fig. 3*)—like the top of a chisel after some use.

Treatment.—These cases belong strictly in the hospital. Until recently, treatment consisted of immobilization on a frame, with pads alongside the spine, and with gradual thickening of padding under the kyphosis. Clinically this brings about a very marked reduction in deformity, so that for the time being the prominence practically disappears. The x-ray, however, shows that the original deformity of the vertebral body is still present; and this deformity persists.

In the late stage, deformity is lessened and alignment of the spine improved by compensatory thickening of the intervertebral discs in their front portion (*Fig. 4*), so that in the end the spine is not so badly bent. To attain this result, it is necessary to have the patient wear a cast in hyperextension for some weeks, generally three months, and afterward a brace for at least a year. The patient will be able to return to moderate work, and can earn his living perfectly well.

A very ingenious bed has also been devised, for treatment by gradually increasing hyperextension, with flexible steel supporting straps controlled by rack and pinion. I have not used the apparatus, and cannot speak for the actual results as shown by x-ray.

The problem of treatment has apparently been solved most efficiently by Davis, of Erie, whose article appeared two years ago

in the *Journal of Bone and Joint Surgery*. I can vouch for its effectiveness in the four cases I have so treated personally. Briefly, the patient is anesthetized and swung up by the feet, lying with the body prone in a hammock attached to a Hawley or similar table; swung high enough so that the pelvic girdle is lifted clear of the table a few inches. The kyphosis is then directly reduced, a series of short firm forward shoves being made, with the hands alongside the spine. A plaster jacket is then applied (*Fig. 5*), reaching from the neck to the knees, still in hyperextension. We did not find it necessary to use the big rolls of cork described by Davis, but it is very necessary to be sure that the shoulders are held back well, and to add plaster over them later if need be.

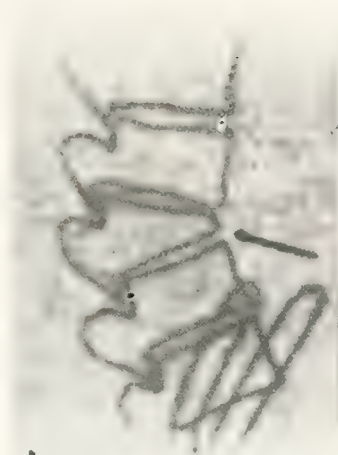
This method is dependent upon the integrity of the posterior portion of the affected vertebra, including the articular processes. Where any comminution is present in this region, the method is dangerous and should not be attempted.

A lateral x-ray picture taken after reduction (*Fig. 6*) will demonstrate correction of spinal alignment, and restoration of the shape of the vertebra so that the upper and lower surfaces of its body are again parallel. Usually, however, there is to be seen a gap in the substance of the bone due to its recent impaction; and this empty space requires to be filled in with new bone—a long process.

For this reason, I am convinced that the cast, and later a brace, should be retained much longer than the time recommended by Davis. Otherwise some recurrence of deformity is almost inevitable, and the fine result of the method impaired, as happened in at least one of the cases I treated.

Progress.—Immediately after correction of the deformity by the Davis method, the patient is free from pain in the back. Hyperextension is not uncomfortable, though the tedium of remaining in bed is very irksome.

All patients with compression fractures are apt to have trouble for several days with distention and abdominal cramps; and there may be a rigidity so board-like that the fear of internal injury is aroused, as noted by Cotton. A corollary of this fact is this, that the symptom of distention after a flexion injury of the trunk should render one suspicious that slight compression fracture may have



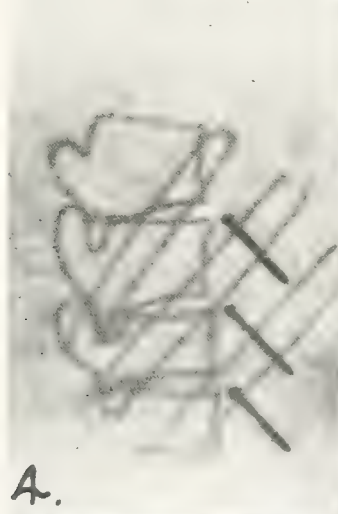
1.



2.



3.



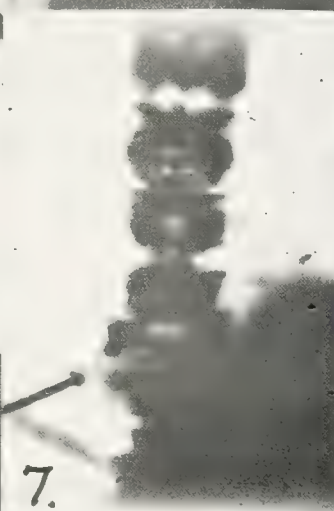
4.



5.



6.



7.



8.

occurred in spite of apparently negative x-ray investigation; and the case should be watched accordingly. If only water is given by mouth for two or three days, distention may be minimized or prevented.

After a few days all these patients feel perfectly well, and get so fat that their casts are too tight, large windows needing to be cut out over the abdomen. It is very difficult to keep them in bed; they slip out to the toilet against orders, and are found sitting up on the edge of the bed, smoking.

Healing by bony fusion to the adjacent vertebrae seldom takes place—in only two of my cases; but the back is straighter than might be expected, because of the thickening of the discs mentioned above. If there should be serious disability, though there seldom is, operative fusion is to be done, as advised by Smith-Peterson. It is my belief that this procedure would restore the majority of these cases to full duty at heavy work, though in fact I have mostly rested content with their return to moderate work.

If the Davis method is successfully used, it is my belief that disability will be reduced to less than 10 per cent, which means that the patient can return to heavy work, full time; although I was able to observe my own few cases too short a time to be sure of this, before I left the mining region.

FRACTURES WITH PARALYSIS

(20 in this series)

The third and last group of fractures of the spine comprises those familiar to you all as the broken backs with paralysis.

The 20 cases in this series were caused either by direct or indirect violence; there was sometimes comminution, or actual fracture-dislocation.

The problem here is not the fracture itself, because this heals strongly, often by fusion with adjacent vertebrae (*Fig. 7*); the difficulty is of course the injury to the cord or the cauda.

I performed laminectomy (*Fig. 8*) 10 times, in a period after injury varying from a few hours, to three months. Six of the patients died, in from less than one day to 14 months after operation. Four of the 10 are living; and of these living cases after operation, one has gone back to regular work. Three are not benefited at all so far as I can discover.

In the remaining 10 cases, I did not operate, either because the patient's condition forbade, or because operation was refused, or because paralysis was incomplete. Of these patients not operated on, six died, in from one day to two years; four are living out of the 10.

Comparing results further, one patient after operation has returned to work; two can walk with canes; one cannot walk. Without operation, none can work; three can walk with canes, one cannot walk.

Thus with or without operation, more than half died; the majority of the living can walk with canes. Only two completely paralyzed patients are living—one with, one without, operation. Both use the wheel-chair.

Laminectomy seems to have directly cured one case, and I present herewith a brief summary of his record:

A comminuted fracture of the 2nd and 3rd lumbar, with at first no sign of paraplegia; but with gradual loss of motor power in the legs, so that by the end of the fourth day there was no motion of any of the muscles. There was, however, no loss of sphincter action; and sensation was not lost.

Laminectomy showed the dura pressed upon by the edge of the displaced vertebra; cord and fluid were of normal appearance. All pressure was removed by removing several laminae.

There was a slight return of motion in the toe; by the 4th day postoperative; by the 12th day, good motion in the ankles, and a little flicker of motion in the left quadriceps and the right sartorius; by the end of five weeks, there was some motion in all muscle groups of both lower extremities, and motion at the ankles was strong enough to overcome vigorous manual resistance.

Eight months after operation he returned to light work; and since then (6 years) he has continued doing full duty in the mines as before injury. The spine is healed by fusion, and is apparently as strong as ever.

Unfortunately such a happy result is not the rule. Authorities disagree as to the question of operation, as well as to the proper time for its performance if decided upon. The tissues are better able to stand operative trauma after a week, than at once; on the other hand, it is of course desirable to remove pressure from the cord as soon as possible. Adson has felt that late operation is the better procedure; Sherman, that it should be done as soon as possible. Heuer feels that the operation seldom if ever can be of benefit;

Scudder and Cotton among others, that it should be done as a rule, and early.

The fact is this, that unfortunately even incomplete injuries of the cord do not as a rule improve much; and that while some large groups of muscles may show good motion, all along, the chance of much improvement in the ones that are paralyzed is poor. Even apparently favorable cases recover disappointingly little, and are lucky to walk, no matter how haltingly and clumsily.

Operation offers the only hope of removing pressure and thus allowing return of function; it is a severe operation; but the fact that it may help, however rarely, should indicate its performance. I have advised it as a routine where possible; and have wished that I had advised it even in the incomplete cases.

Aside from laminectomy, the operation of cystotomy is advised, to prevent bladder distention and delay ascending renal infection.

You are all aware of the difficulties of proper nursing of these patients, their weakness and anorexia, and the terrifying rapidity with which they develop bed-sores in spite of all vigilance. They can only be treated in the hospital for some months until their condition becomes somewhat stable; then they seem to do better at home.

SUMMARY AND CONCLUSIONS

Fracture of the spine is not the rare injury it has been supposed to be; it is not always the result of great violence, nor is it by any means always associated with paralysis.

Fractures of the lumbar transverse processes, if produced by direct contusion, are similar to fractures of a rib, and the treatment and prognosis are similar. If, however, caused by sidewise bending of the spine, that is, by the pull of the attached ligaments, the case is more apt to be serious, and should be treated accordingly to avoid disaster.

Compression fractures are produced by bending of the spine usually in flexion forward; the violence of the injury is not always extreme; the symptoms are misleading and often trivial. Inadequate treatment leads to the progressive disability of Kummel's syndrome. With long-continued support in hyperextension there will be good function, and a return to moderate work. By successful treatment after Davis' technique, or by operative fusion, disability should be very small, so that full work can be done.

The treatment of fractures with paralysis is very discouraging, and with or without operation the end-result is usually much the same. But the occasional happy result of laminectomy indicates its advisability as the rule, and the patient should not be denied its possible benefit.

*Whitlock of Norfolk tells me that he has seen compression fracture following this injury, as well as after a fall upon the feet.

DISCUSSION

DR. A. R. SHANDS, JR., Durham:

I want to tell Dr. Todd how much I have enjoyed his very complete and interesting resume of the cases. I do think he has made a complete contribution. Of course, it is of a little more interest to me as an orthopedist than to a general practitioner, but I do want to say I shall enjoy reading the case reports in detail when they are published.

I also want to say I have avoided the forcible hyperextension of the spine in compression fractures because of possible injury to the cord, and I believe with proper hyperextension on the Rogers' bed, as used in Boston, you can get as good results as can be secured in the other way. I do not think too much emphasis can be placed on the lateral x-rays of the spine. The so-called "thank-you-ma'am" fractures, from going over bumps in an automobile, are too common. These cases go to the family physician, who is all too prone to tell the patient there is nothing wrong with the back and even pass up an x-ray examination. I have seen two cases of that kind in the last year.

Another type of injury is the dislocation which so often comes with these compression fractures. I have had one case recently in which nature threw across a spontaneous bridge of bone anterior to the bodies of the vertebrae, in a case which we had contemplated doing a bone graft on. Nature did anteriorly what we had contemplated doing posteriorly with a bone graft.

I want to thank Dr. Todd again.

DR. J. W. WHITE, Greenville, S. C.:

Just one thing of value in the management of these cases which Dr. Todd did not mention. We all know the tremendous difficulty we have with the decubiti and what a serious problem that is to take care of. I noticed in one of Dr. Todd's illustrations that the plaster in the forcible-extension cases came down and amounted to a double spica. Putting on a double spica in these cases with paralysis is a very great help in taking care of them. It has solved the difficult problem in taking care of these distressing decubiti that are bound to develop in spite of care in nursing.

DR. TODD, closing:

I want to thank the gentlemen for their kind discussion.

I have mentioned in the paper the bed used in Boston. I have not actually used it myself.

The Davis method is a dangerous method if there is the slightest suspicion of injury to the laminae, or the articular processes.

Otherwise it appears not to be dangerous, and it is most efficient.

TREATMENT OF PERNICIOUS ANAEMIA WITH HOG'S STOMACH

(Wilkinson, J. F., Manchester Royal Infirmary, *British Medical Journal*, January 17th, 1931)

Observations upon the value of hog's stomach have been extended to 108 cases of pernicious anaemia. Treatment is described using fresh and desiccated preparations of hog's stomach tissues. The dose and administration are indicated: Fresh tissue, uncooked, 1,000 grams per month—whole month's supply taken in 3 days; desiccated stomach $\frac{1}{4}$ the dosage of fresh. After periods of observation up to 18 months no relapses have occurred, and all the cases have done well.

This new form of treatment for pernicious anaemia with active preparations of hog's stomach has given highly satisfactory results—undoubtedly better than with liver, while the relative dose is less than the liver dose. More than 92 per cent of the patients treated with hog's stomach are perfectly well, and the majority are doing their full time work. A further 6 per cent are much improved, but still suffer from varying degrees of nervous impairment. Hog's stomach therapy is superior to liver diet in the speed of remission of the condition, the erythrocytes and haemoglobin increasing 157 per cent and 64 per cent, respectively, compared with 90 per cent and 77 per cent, respectively, with liver under comparable conditions.

Hog's-stomach therapy has qualitative effects on the blood picture similar to those of liver, but the erythrocytes and haemoglobin increase in a characteristic step-like manner in many cases. The colour index varies inversely with the red cell count.

Eosinophilia is frequently seen, but not in every case.

Clinically, the immediate results are similar to those obtained with liver. They are more prompt and, ultimately, the normal health is reached more quickly; work is resumed sooner; and all the gastrointestinal symptoms appear to be relieved. This is not always the case with liver treatment, hydrochloric acid and pepsin being frequently required in addition to relieve the indigestion, flatulence and occasional sore tongue.

Achylia gastrica persists despite the treatment.

Hydrochloric acid and pepsin do not appear to be necessary for the relief of symptoms with this form of treatment.

There is a minimum dose of hog's-stomach to maintain the normal health of each patient. Regular blood counts are essential for the control of this dose, owing to seasonal variations and the pro-

found effects of even minor infections.

Hog's stomach in normal doses readily produces an excessive erythrocytic response, approaching polycythaemia, and several cases with counts over 6 million are now under observation.

Fresh hog's stomach can be taken in adequate doses for a few days every three to four weeks with a maintenance of normal health.

Several cases with early postero-lateral involvement of the spinal cord have shown remarkable improvement, and paraesthesiae of the hands and feet (without alteration of reflexes) have been almost completely cured in nearly every case. These have always been the symptoms most resistant to treatment.

THE RELATIVE VALUE OF IRRADIATION AND OPERATION IN THE CURE OF UTERINE CANCER

(Polak, J. O., Brooklyn, N. Y., in *Ohio State Medical Journal*, May, 1931)

The superiority of radium over surgery in the treatment of cervical cancer is now generally recognized by surgeon and gynecologist all over the world with the exception of the three men [Weibel, Adler and Bonney] mentioned in this review, for, if carcinoma of the cervix is diagnosed in its earliest stages, and radium treatment properly administered, it is possible to cure from 50 to 66 per cent of the cases. Surgical treatment of cervical cancer should be virtually abandoned since better results can be obtained by irradiation and x-ray therapy. The woman is better off with no operation than she is with an incomplete one. In early body cancer her best chance lies in radical operation followed by deep x-ray irradiation.

UNFAIR HOSPITALS

(Editorial, Wyoming Section, *Colorado Medicine*, May, 1931)

Just across the Wyoming borders there exist some very unfair hospitals. . . . A business manager of the clinic who is a business man and not an M.D. handles the deals. He openly solicits cases from the medical men and promises a split of fees. Doctors thus selected are given a secret code using numbers in place of letters of the alphabet. When a case is sent to this clinic in due course of time an envelope is received by the doctor who sent the case and the coin of the realm is inclosed. No letter accompanies the cash but in a separate envelope the name of the patient is sent in code numbers. The patient is charged about double the price usually charged in the region from whence he came, and about 50 per cent of this charge is returned to the doctor sending the case.

The doctors disclaim any knowledge of the transaction and the business manager is held blameless. . . . These practices can and ought to be stopped and the head of the religious denominations in charge of such hospitals owe it to the good name of their churches to exclude patients from such unethical operators.

Some Phases of Surgery of the Thyroid Gland*

LINWOOD D. KEYSER, M.D., F.A.C.S., Roanoke, Va.

One of the outstanding features of the progress of medicine in the present century has been the surgical conquest of goiter. In no field have contributions from biochemistry, the experimental laboratory and clinical research been so aptly brought together and correlated to bring about satisfactory methods in diagnosis and treatment. When we seek to evaluate the factors which have made possible this achievement, we may mention as outstanding the perfection of the technique of bilateral partial lobectomy led by Kocher and Halsted, the introduction of clinical calorimetry, the isolation of thyroxin by Kendall, the introduction of iodine in preoperative treatment by Plummer and the development of newer methods of anesthesia. As great as this achievement has been, however, one who might feel that the last word has been spoken will be quickly disillusioned, if he attempts a survey of the literature on the thyroid gland during the past five years.

This literature is voluminous: new authors have appeared who relate a wealth of new experience and present conclusions which not infrequently are in conflict with concepts which hitherto have been regarded as firmly established. The general trend of the subject-matter has likewise changed. Writers seem to be more interested in considerations of the histogenesis of goiter, of thyroid malignancy. They concern themselves more with the functional and morphologic aspects of the iodine effect on various types of glands, with the proper evaluation of basal metabolic studies and the like. We read of iodine hyperthyroidism, masked hyperthyroidism, borderline hyperthyroidism, latent hyperthyroidism, iodine-fast, and iodine-resistant, thyroid disease. Certainly our ideas of goiter and hyperthyroidism are not yet completely rationalized nor by any means standardized.

THE INVOLUTION CONCEPT OF HYPERTHYROIDISM

Much effort has been made in the past five years to show that nodular goiter with hyperthyroidism (so-called hyperfunctioning ade-

noma) is, in most instances, a state of regression or involution of diffuse hyperplastic goiter. Cattell, Graham, Rienhoff and Lewis, and others have made this the subject of many papers and have advanced excellent histologic and clinical evidence for their claims. Rienhoff biopsied frank exophthalmic goiter and after treating his patients several weeks with iodine found at lobectomy that the gland had approached in histologic structure the morphology of the nodular thyroid. The acini with hyperplasia and high columnar cells had undergone involution, becoming for the most part distended with stainable colloid and lined with low cuboidal or flat cells, a histologic end result in every way comparable with the usual nodular cystic gland. In a study of 100 nodular goiters, Rienhoff found only eight true neoplastic adenomas arising from fetal acini.

The conclusion is drawn that nodular goiter is usually an involution stage of diffuse hyperplastic (exophthalmic) goiter, therefore a regressive stage of the same disease, and, by the same token, not to be considered a disease entity. Likewise the beneficial effect of iodine in exophthalmic goiter is due to the initiation of the involution process by this drug. Involution proceeds only to a certain maximal degree and is never total, some areas of hyperplasia being found here and there. The failure of cure of diffuse hyperplastic goiter by iodine therapy, the recrudescence of toxic symptoms after prolonged administration of iodine, and the consequent development of a gland and type of hyperthyroid disease no longer susceptible to iodine involution, are explained by the reactivation of this residual hyperplastic tissue. Likewise spontaneous remissions in the clinical course of exophthalmic goiter are accompanied by similar morphologic involutional changes in the thyroid gland. For this reason long-standing hyperthyroid disease, with a history of many crises and remissions over a period of years, is likely to be more or less resistant to iodine treatment.

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

Thus, with the involution concept of toxic goiter, we may come to a better understanding of iodine-fast hyperthyroidism, latent hyperthyroidism, trained goiters, mixed exophthalmic and hyperfunctioning adenomatous goiter. The involution concept, however, does not entirely make clear why nodular goiter may exist for years without previous history of hyperthyroidism, or may never become toxic. Likewise certain cases of pure diffuse hyperplastic goiter of the exophthalmic type may from the beginning be resistant to iodine. As Plummer pointed out, nodular goiter with hyperthyroidism and exophthalmic goiter have, each, certain clinical peculiarities in symptomatology and in therapy which make it important to differentiate them. Whether we shall consider these different manifestations of toxic goiter as disease entities or as phases of the same disease is probably not so important as the fact that we must consider them at least different.

TYPES OF THYROID DISEASE SUITABLE FOR SURGERY

Aside from the simple diffuse colloid goiter of adolescence, practically every thyroid enlargement is potentially surgical and, in the absence of contraindications, operative removal should be advised. This statement will seem less radical if we consider that every toxic goiter, no matter how severe in degree, has at some time in its clinical course been easily removable with a morbidity and mortality approaching zero. Furthermore, most thyroid malignancies are adenocarcinomas in type, and approximately 90 per cent have a history of long-standing nodular goiter. Had this been removed as a premalignant condition on the same basis that we remove premalignant tissue elsewhere, a fatal disease would have been obviated. Again, it is roughly estimated that one-third of benign nodular goiters and an indefinite fraction of symmetrically enlarged glands ultimately and insidiously become toxic. Therefore, the burden of responsibility must fall heavily on the patient and all too frequently on the physician who encourages delay in operation in these pretoxic or premalignant conditions.

As for the simple goiter of adolescence, it is, of course, clinical dogma that iodine and thyroid feeding are specific. About two-thirds of the cases will be cured by such a regimen. However, it should be remembered that iodine and thyroid substance in therapy are both

tricky. At times small adenomas or a condition of diffuse adenomatosis may be concealed in the substance of a colloid gland and may not be palpable. In such cases iodine therapy may activate the tissue to produce toxic symptoms. I have had two schoolgirls who developed hyperthyroidism while taking iodine for simple goiter. It was two months before the basal rate returned to normal after the cessation of iodine therapy. This is the usual course of such a type of iodine hyperthyroidism, as recounted in the literature. Hence, we may learn the lesson that iodine is not to be indiscriminately administered to patients even in adolescence, unless they are being seen at least twice monthly by a competent physician. The development of thyrotoxicosis of any degree is the signal to stop iodine treatment.

BASAL METABOLISM READINGS AND THYROTOXICOSIS

An increase in the surface heat energy production as measured by clinical calorimetry, in the absence of such diseases as fever, anemia, leucemia and myocarditis, has come to be regarded as the *sine qua non* of hyperthyroidism. It has likewise been assumed on not quite so sound a clinical basis that a low or subnormal metabolic rate is inconsistent with toxic thyroid secretion. In the minds of practitioners generally these principles are deeply fixed. Have we perhaps been a little bit overzealous in accepting the finality of this single laboratory test as the universal index of thyroid dysfunction? Or, is it to be compared with the leucocyte count in appendicitis, a valuable bit of information but only of value when taken in correlation with clinical findings?

In the first place, no laboratory test is subject to more difficulty in standardizing the prerequisite conditions for its satisfactory performance, in eliminating emotional and temperamental features on the part of the patient, and in keeping the apparatus and technique consistently perfect from day to day. Second, a single basal metabolic reading is a cross-section measurement in the course of thyroid disease. A normal rate today may have been elevated a month before, or *vice versa*. While true crises and remissions are not attributed to nodular goiter with hyperthyroidism, the histories of many of these cases will show periods of relative quiescence and of exacerbation, and at such times the rate will fluctuate.

tuates. Third, we must consider whether or not hyperthyroxinemia (iodine-saturated or not, according to Plummer's hypothesis) and hypothyroxinemia are the only types of thyroid dysfunction. Admittedly this is dangerous ground, but each year brings to light a new chemical hormone associated with various endocrine glands, such as the pituitary, the adrenals and the ovaries. Some investigators have begun to speculate regarding the thyroid. However, for the sake of scientific exactitude it is better perhaps to think of thyroxin and its abnormal molecular variants as being the chief if not the only element in thyrotoxicosis and in hypothyroidism.

Certain clinical variations from the normal, however, are noteworthy. I have a small but interesting group of 16 nodular goiters operated upon in the past five years whose basal rates were normal or subnormal. Nevertheless, on examination they showed in certain degree an emotional instability, a type of glistening cornea and stare, a pulse on the whole slow but subject to extreme fluctuations in rate. At times there was a moderate loss of weight. Subjectively their complaints of nervousness and general ill-being were noted as being more consistent with the type usually ascribed to thyroid disease than with that pictured under the term, neurocirculatory asthenia. Their thyroids were operated upon and the diagnosis of non-toxic nodular goiter made, as being consistent with the basal metabolic readings and with the pathologic report. However, very shortly after operation, which was accompanied perhaps by no evidence of sharp hyperthyroid reaction, the patients consistently lost their emotional instability, became less nervous, and their pulse rates became more stabilized. Especially noteworthy in the first few days of convalescence was the disappearance of the thyroid stare. This is not true exophthalmos, but that peculiar glistening effect of the fixed eyeball which is such a frequent accompaniment of thyroid disease.

In spite of low metabolic rates I have contrasted this group with others of the non-toxic nodular type of goiter operated upon during the same period and the impression has been gained that perhaps they represent a type of thyroid dysfunction such as Lahey and Clute have described under the terms, latent hyperthyroidism, or borderline hyperthyroidism.

In frank exophthalmic goiter it is true that

fluctuations in the basal rate and the pulse and weight tend to run somewhat parallel. However, this is not consistently true, as one component or the other may be an excessively prominent feature in the clinical course of the disease. Numerous instances of this could be mentioned but the following case is illustrative:

Maiden lady, aet. 50 years, was admitted to the Roanoke Hospital, September 25th, 1930, with a history of rapid heart, 30 lbs. weight loss, loss of strength, and progressive nervousness over a period of six months. There was slight exophthalmos, a thyroid stare, a pulse rate of 190 per min., slight but definite bilateral symmetrical and non-nodular enlargement of the thyroid gland. A bruit was heard and a faint thrill felt over each superior pole. The basal rate, plus 42, fell rapidly to plus 2, plus 20, plus 11, at different intervals during the administration of iodine. After two months there was a 10-pounds increase in weight. However, during the entire preoperative period the pulse varied from 120 to 180 per minute and the blood-pressure was usually recorded as around 160/60. In spite of every effort the cardiac flurry, which the entry of anyone into the room would occasion, persisted. The heart was very slightly enlarged. Operation done December 5th, 1930, under barbiturate-nitrous oxide anesthesia was attended with no unusual temperature rise, but the pulse with a rate of 160 quickly broke into fibrillation on the second day and remained irregular for about one week. Since that time the pulse has become stabilized at 80 per min., the patient has regained her weight and her usual composure and the thyroid facies has disappeared. The pathologic examination of the tissue showed exophthalmic goiter with iodine involution and no evidence of cystic nodules or adenomatosis was found. From the history and the prominence of the cardiac symptoms, we had felt that we were dealing with a mixed type of hyperthyroidism, that exophthalmic and hyperfunctioning adenomatous disease were both present. Perhaps we missed the latter in the pathologic study, but the case is given as illustrative of how a good response in lowering the metabolic rate preoperatively may not be accompanied by a satisfactory stabilization of the cardio-vascular apparatus.

Similar cases in which the metabolic reading may remain high, with the pulse rate and cardio-vascular system relatively more stable, while much less frequent, have been encountered. Time forbids their detailed recitation.

VARIATIONS IN THE RESPONSE OF THYROTOXICOSIS TO IODINE MEDICATION

In early diffuse hyperplastic goiter with hyperthyroidism the administration of iodine

almost uniformly brings about improvement. Accompanying the involution described above there is a diminution of nervousness, tremor and tachycardia. The patient to a variable degree gains weight, the vascularity of the gland is lessened and the metabolic rate is decreased. Even in this group, however, we occasionally find patients who are iodine-resistant, or iodine-fast. Rienhoff casually notes five such cases.

From the clinical standpoint, two features should be emphasized, *viz.*, that iodine regression is never complete and that it is always more or less transient. Sooner or later there are residual areas of hyperplastic tissue which again become hyperactive. Furthermore, reactivation of an iodine-treated gland means that regression a second time from iodine medication will not take place, or if it does, the process will most likely be less complete than before. The cure of low-grade toxic goiter by iodine may be possible, but to date no undisputed case is recorded.

Likewise, exophthalmic goiter which has undergone spontaneous involution loses to some degree its iodine sensitivity with each remission, so that the longer the duration of the thyrotoxicosis the less likelihood of a favorable iodine response. From the beginning Plummer taught that hyperfunctioning nodular goiter was resistant to iodine and that the prolonged administration of Lugol's solution to non-toxic adenomas might light them up to toxic activity. While the explanation of these facts may vary slightly with our acceptance or not of the involution hypothesis, the facts themselves remain. Some authors do claim regression in toxic nodular goiter treated with iodine preoperatively, but the Mayo school would account for this on the basis of mixed exophthalmic and toxic adenomatous disease.

CLINICAL MANAGEMENT OF IODINE-FAST THYROID DISEASE

These iodine-fast thyroids possibly constitute the greatest problem today in treating goitrous disease. It is in this group that we encounter the occasional mortality which intensifies the terror of operation in the mind of the layman. These goiters are almost uniformly of long standing, with many periods of crisis and remission. In the nodular types a non-toxic condition has existed on an aver-

age of 16 years, when an insidious tachycardia, a gradual loss of weight, and a moderate degree of nervousness begin to tell the patient that something is wrong. The metabolic rate is usually lower than in early exophthalmic disease, but the smoldering fires of this prolonged hyperthyroidism bring about a gradual cardio-vascular and visceral change from which the patient cannot completely recover. Here we meet cardiac enlargement, decompensation, fibrillation, nephritis, hepatitis and trophic disturbances, all of which add to the hazard of operation.

In treatment, the resources of the internist, the anesthetist, the surgeon and his nursing staff are taxed to the utmost. We are with regard to iodine-fast thyroids in about the same state as in the pre-iodine days. In the past seven years I have had to deal with 21 cases of iodine-fast, or so-called trained goiters, exclusive of the cases classed as pure toxic adenomas. Fortunately, and perhaps providentially, they were brought through without mortality, but not without hours of anxiety on the part of all concerned. Iodine has caused some degree of remission in a few of these cases, the chief feature noted being a slight decrease in the metabolic rate.

In preoperative treatment how long shall we persist in the administration of iodine in these cases? This question is frequently asked and the answer varies. I have had no fixed course, but feel convinced that if the patient has not shown marked improvement on isolation, bed rest and iodine within three weeks, a further continuance of the drug will be of no avail. I have practiced ligation in five cases of this group, but the possible benefit of the procedure was not convincing. I have felt, however, that it gave me some estimate of the reaction which I might expect from lobectomy. Hemilobectomy has been done in several instances, the second lobe being removed with satisfaction a few weeks after the first operation. In three instances, operation had to be interrupted, the wound packed with acriflavine gauze, and secondarily closed. Radiation has been applied occasionally and may find a field of usefulness at times. In our cases it was attended with no striking result. The general plan of treatment followed has been prolonged bed rest, isolation as far as possible from visitors,

avoidance of excitement, a high carbohydrate diet, the administration of mild sedatives and precordial application of the ice bag. In this way the patient is gotten into the best possible condition for operation. Preoperative digitalization has been routinely used, but digitalis is not given in compensated and non-fibrillating cases until 24 to 48 hours preceding operation.

The patient is kept in ignorance of the exact date and time of operation. Then preliminary narcosis with sodium amytal or nembutal is established either orally or intravenously. Many patients with this treatment have no recollection of the operating room. The operation is done under local infiltration with novocaine, this being supplemented with nitrous oxide if the patient is resistant to local anesthesia. The operation should be done quickly and precisely, with especial attention to hemostasis. These patients stand blood loss poorly even in small amounts. I feel that the surgeon who keeps this type of patient on the operating table longer than one hour at most should entertain a little self criticism and learn to speed up without sacrificing the details of his technique. He should be ever ready to stop the operating at any stage, ligating the major vessels and applying the pack, if the condition of the patient becomes critical.

During the stormy postoperative crisis which follows, the free use of morphine, of fluids by every route except perhaps the vein, and the administration of iodine by rectum and by mouth are our chief features in treatment. Here again I use digitalis and believe I see benefit therefrom. In one patient with a rectal temperature of 106 degrees, the ice pack repeatedly administered saved the day. In severe cases with cardiac embarrassment the oxygen tent may be used with possible relief. Thyroid residue or thyroxin intravenously, according to Rogers and Santee, is of value. With these I have had no experience.

Granting that the patient with long-standing toxic goiter recovers, as he usually does, the end results are certainly less brilliant than those obtained in patients treated at an earlier epoch of their disease. While on the whole a good comeback is usually obtained, many patients are to some extent handicapped indefinitely by the cardio-vascular and visce-

ral degenerative changes which have taken place.

THE AMOUNT OF THYROID TISSUE TO BE PRESERVED

The amount of thyroid tissue to be removed in performing bilateral partial lobectomy is another controversial point. The production of nerve injuries, and the likelihood of tetany and myxedema on the one hand and the persistence or recurrence of hyperthyroidism on the other, constitute a veritable Scylla and Charybdis, between which the thyroid surgeon must steer cautiously. Pemberton, who has recently written admirably on the subject, feels that an amount of thyroid tissue equivalent to one-sixth to one-third of a normal lobe should be left on each side. He argues that if it were necessary for the surgeon to be mathematically exact in the amount of tissue to be removed, he would have to command a degree of judgment approaching the supernatural. He feels, further, that the remaining thyroid tissue in itself has the faculty of potential adjustment to the physiologic needs of the body. Therefore one is safe, within reasonable limits, to leave an amount of tissue which will afford definite protection to the posteromesially-lying recurrent nerve and parathyroids. On the other hand, Lahey and others advocate a more radical resection, feeling that persistence of symptoms or their early recurrence are indicative of an incomplete operation.

Persistent hyperthyroidism and recurrent hyperthyroidism after operation are unfortunate, but indeed rather infrequent, sequelae. In these cases iodine, though advocated by some surgeons, does not seem to give permanent benefit, and its prolonged administration may actually aggravate the condition. If, after several months, hyperthyroid symptoms persist, further surgical removal of the gland is indicated. The same may be said of recurrence, a condition which develops in from five to 15 per cent of cases after operation. Radiation in these cases is frequently advocated but the reported results are not conclusive as to its permanent benefit. When secondary operation is required the procedure should be as radical as possible, and again the resources of the surgeon must be called upon to meticulously avoid nerve injury and tetany.

Injury to the recurrent nerve with a varia-

ble degree of loss of vocal function is perhaps the worst of the late sequelae of thyroid surgery. Its avoidance is of paramount importance. This is best done by the use of local anesthesia or light nitrous oxide anesthesia, with the latter allowing the patient to awaken after the first lobe is removed and hemostasis applied. If the voice is normal the surgeon may proceed with safety to the other lobe. Deep general anesthesia with combined barbiturates and nitrous oxide, ethylene, or ether, preclude the need for this precaution.

Tetany may result from total removal of the parathyroid bodies, or from interference with their blood supply, either during the operative procedure or by the cicatrization of healing. Lahey has advocated the routine search for parathyroid bodies in the resected lobes and their immediate transplantation into the sternomastoid muscle. In one of my two cases of tetany I applied Lahey's technique, transplanting a parathyroid nodule (microscopically confirmed). The patient had had a too extensive resection of a bilateral deeply-placed cystic nodular goiter. Tetany developed and, in spite of the transplant, has persisted, requiring large doses of calcium daily for its control.

Myxedema may likewise occur from too extensive resection, or from thyroiditis in residual tissue which may develop from prolonged drainage due to infection. I have had one case, in a series of 125 lobectomies, this developing six months after operation. The condition was controlled by the oral administration of thyroid extract.

Occasionally we see patients who do not seem to absorb thyroid extract from the alimentary tract. The development of myxedema in such an individual would call for the oral or intravenous use of thyroxin, a regimen obviously unsatisfactory.

CONCLUSION

The goiter problem is far from settled. Each year brings new concepts which at first seem to confuse as much as to clarify our understanding of the disease. As in other fields of medicine, much of what we accept as the truth today will become the untruth of tomorrow. However, it is well to take stock from time to time and, even at the risk of controversy, to attempt some generalizations.

The involution hypothesis as an explanation of the development of many nodular goiters

is illuminating and seems to be gaining acceptance. Whether toxic nodular goiter and exophthalmic goiter are entities or different phases of the same disease is not so important as the recognition of the fact that they are different in their clinical manifestations and to some extent in their therapeutic requirements.

Other things being equal, surgery is to be advised in the presence of any type of goiter—benign, toxic, or malignant—after the age of 25. If the condition is at the time benign its removal is indicated on the same basis as the removal of premalignant or pre-toxic conditions elsewhere in the body.

The basal metabolism test is difficult to accurately obtain at a single reading and should be repeatedly determined before acceptance of the final figure. Even then it should be remembered as a laboratory procedure and correlated with the clinical findings before being taken as the absolute index of thyroid dysfunction.

Iodine should not be used after adolescence and early adult life, except preoperatively in the treatment of thyroid disease. In any event the administration of iodine should be regarded as a serious clinical procedure and careful watch be kept for the development of untoward symptoms.

Long-standing thyrotoxicosis is frequently iodine-fast and is still a source of grave concern to both patient and surgeon. Procrastination in surgery is the most frequent cause, and early operation the best preventive, of this unhappy condition.

The amount of thyroid tissue to be removed at operation, in especial reference to nerve injury, myxedema and tetany on the one hand, and to persistent or recurrent hyperthyroidism on the other, is a technical problem of goiter surgery which seems unlikely of solution with mathematical precision. As yet the answer to the question, "How much tissue shall be allowed to remain?", will depend upon the judgment of the individual surgeon who operates for thyroid disease.

Bibliography

1. JORDAN, S. M.: Basal metabolic rates and their relation to end results in thyroid disease. *Arch. Surg.*, 1925, XI, pp. 1-17.
2. FALH, H. C.: The relationship between the pathologic and the clinical aspects of the diseases of the thyroid gland. *Arch. Surg.*, 1925, XI, pp. 74-92.

3. SISE, L. F.: Aids in predicting the degree of postoperative thyroid reaction. *S. G. & O.*, 1925, XLI, pp. 57-62.
4. LAHEY, F. H., and CLUTE, H. M.: Persistent and recurrent hyperthyroidism. *Ann. Surg.*, 1926, LXXXIII, pp. 199-205.
5. STETTEN, DEWITT: Combined secondary thyroidectomy and thymectomy for intractable exophthalmic goiter. *Annals of Surg.*, 1926, LXXXIII, pp. 288-289.
6. DECOURCY, J. L.: The prevention of postoperative thyrotoxicosis by postoperative iodination. *Annals of Surg.*, 1926, LXXXIII, pp. 768-769.
7. COLLIER, F. A., and HUGGINS, C. B.: Tuberculosis of the thyroid gland. *Annals of Surg.*, 1926, LXXXIV, pp. 804-820.
8. GUTHRIE, D. C.: The advantages of the primary superior polar attack in the removal of substernal thyroids. *Annals of Surg.*, 1926, LXXXIV, pp. 251.
9. FRAZIER, CHAS. H., and MOSSER, W. B.: A system of control and treatment in the toxic goiter. *Annals of Surg.*, 1926, LXXXIV, pp. 5-56.
10. LEWISOHN, R.: Symmetrical and aberrant thyroids. *Annals of Surg.*, 1926, LXXXIV, p. 675.
11. ZECHWER, I. T.: Fibrosarcoma of thyroid. *Arch. Surg.*, 1926, XII, pp. 561-570.
12. MENNE, F. B., JOYCE, T. M., VON HAUGEN, A. O.: Thyroid disturbances. *Arch. Surg.*, 1926, XIII, pp. 329-342.
13. RIENHOFF, W. F., JR.: Involution or regressive changes in the thyroid gland in cases of exophthalmic goiter. *Arch. Surg.*, 1926, XIII, pp. 391-425.
14. RIENHOFF, W. F., JR., and LEWIS, DEAN: Relation of hyperthyroidism, to benign tumors of the thyroid gland. *Arch. Surg.*, 1928, XVI, pp. 79-116.
15. THOMAS, HENRY M., JR.: Nodular goiter with hyperthyroidism. *Arch. Surg.*, 1927, XVI, 117-124.
16. HERTZLER, A. E.: Mixed tumors of the thyroid gland (fetal adenomas). *Arch. Surg.*, 1927, XVI, pp. 197-1200.
17. PEMBERTON, J. DEJ.: Malignant disease of the thyroid gland. *Annals of Surg.*, 1928, LXXXVII, pp. 369-377.
18. EBERTS, E. M., and FITZGERALD, R. R.: *Annals Surg.*, 1927, LXXXVI, pp. 515-531.
19. HUNTER, J. W.: The secondary symptoms of Graves Disease. *Annals Surg.*, 1927, LXXXVI, pp. 532-533.
20. PARSONS, W. B., JR.: Adenoma of the thyroid. *Annals Surg.*, 1927, LXXXV, pp. 107-115.
21. SANTEE, H. E.: Acute postoperative hyperthyroidism. *Annals Surg.*, 1927, LXXXV, pp. 605-607.
22. POOL, E. H.: Malignant growths of the thyroid. *Annals Surg.*, 1927, LXXXV, pp. 120-128.
23. MCCLURE, R. D.: Experiences with the thyroid problem in a Detroit clinic. *Annals Surg.*, 1927, LXXXV, pp. 333-338.
24. BRENZER, A. G.: Thyroiditis accompanied by hyperthyroidism. *Annals Surg.*, 1927, LXXXV, 339-345.
25. LAHEY, FRANK H.: Suture of the recurrent laryngeal nerve for bilateral abductor paralysis. *Annals Surg.*, 1928, Vol. LXXXVII, pp. 481-484.
26. FRAZER, C. H., and MOSSER, W. B.: The effect of iodine and thyroid feeding on the thyroid gland. *Annals Surg.*, 1929, Vol. LXXXIX, pp. 949-856.
27. DECOURCY, J. L.: The mortality of operations on the thyroid gland. *Annals of Surg.*, 1929, LXXXIX, pp. 203-208.
28. JOHNSON, W. O.: Fibrosarcoma of the thyroid gland. *Annals of Surg.*, 1929, XC, pp. 29-36.
29. PORTUGALOV, S. O.: Homotransplantation of thyroid tissue in cases of complete thyroidectomy for cancer. *Annals of Surg.*, 1929, XC, pp. 37-40.
30. MCQUILLAN, A. S.: Treatment of acute postoperative thyroid toxemia. *Annals of Surg.*, 1929, XC, pp. 26-28.
31. DIXON, C. F.: Direct and indirect injury to the recurrent laryngeal nerves during thyroidectomy. *Annals of Surg.*, 1929, XC, pp. 982-984.
32. OESTERLIN, E. J.: Carcino-sarcoma of the thyroid. *Annals of Surg.*, 1930, XCI, pp. 610-612.
33. ARONS, ISIDORE: Sarcoma of the thyroid gland. *Annals of Surg.*, 1930, XCI, pp. 44-56.
34. CLUTE, H. M., and SMITH, L. W.: Cancer of the thyroid gland. *Arch. Surg.*, 1929, XVII, pp. 1-20.
35. DECOURCY, J. L.: Toxic goiter and mental disease. *Arch. Surg.*, 1928, XVII, pp. 296-303.
36. PEMBERTON, J. DEJ.: Goiter. Management of the poor surgical risk. *Arch. Surg.*, 1930, XX, pp. 591-606.
37. RIENHOFF, WM. F., JR.: Gross and microscopic structure of the thyroid in man. *Arch. Surg.*, 1929, XIX, pp. 896-1036.
38. CRILE, G. W.: Hyperthyroidism and peptic ulcer. *S. G. O.*, 1925, XL, pp. 818-821.
39. CANTERO, A.: Bacteriology of the thyroid in goiter. *S. G. O.*, 1926, XLII, pp. 61-63.
40. DINSMORE, R. S.: Hyperthyroidism in children. *S. G. O.*, 1926, XLII, pp. 172-176.
41. DINSMORE, R. S.: The care of the handicapped goiter patient. *S. G. O.*, 1926, XLII, pp. 177-179.
42. LAHEY, F. H.: The transplantation of parathyroids in partial thyroidectomy. *S. G. O.*, 1926, XLII, pp. 508-509.
43. ROGERS, JOHN: The treatment of the acute postoperative toxemia of hyperthyroidism. *S. G. O.*, 1926, XLII, pp. 567-569.
44. MASON, J. T.: Exophthalmic goiter in the Pacific Northwest. *S. G. O.*, 1926, XLII, pp. 663-666.
45. SEARLS, H. H.: The technique of partial thyroidectomy. *S. G. O.*, 1926, XLIII, pp. 191-195.
46. DEQUERVAIN, F., and CURTIS, G. M.: The operative treatment of goiter. *S. G. O.*, 1926, XLII, pp. 498-503.
47. ELSE, J. E.: Anatomical variations in the thyroid as a cause of recurrent goiter. *Am. J. Surgery*, 1930, VIII, pp. 92-96.
48. JACKSON, ARNOLD S.: Primary thyroidectomy for exophthalmic goiter. *S. G. O.*, 1927, XLIV, pp. 406-411.
49. BLALOCK, A., and HARRISON, T. R.: The effects

of thyroidectomy and thyroid feeding on the cardiac output. *S. G. O.*, 1927, XLIV, pp. 617-622.

50. RICHTER, H. M., and SIMMERMAN, L. M.: Latent postoperative tetany. *S. G. O.*, 1927, XLIV, pp. 627-637.

51. BUNTS, A. T.: The preoperative management of patients with hyperthyroidism. *S. G. O.*, 1927, XLV, pp. 832-833.

52. MCGRAW, A. B.: Juvenile exophthalmic goiter. *S. G. O.*, 1928, XLVII, pp. 25-31.

53. MOSSER, W. B.: The effect of iodine and thyroid feeding on the thyroid gland. *S. G. O.*, 1928, XLVII, pp. 168-173.

54. HELLWIG, C. A.: Morphologic changes in exophthalmic goiter following the use of Lugol's solution. *S. G. O.*, 1928, XLVII, pp. 173-179.

55. HERTZLER, A. E.: The technique of thyroidectomy. *S. G. O.*, 1928, XLVII, pp. 225-234.

56. BURHANS, E. C.: Acute thyroiditis. *S. G. O.*, 1928, XLVII, pp. 478-488.

57. PRIOLEAU, W. H.: Tracheotomy; technique and after care of the patient. *S. G. O.*, 1928, XLVII, 848-850.

58. CRILE, G. W.: The adrenal factor in hyperthyroidism. *S. G. O.*, 1929, XLVIII, p. 371.

59. LAHEY, F. H.: Excision of the thyroid isthmus for relief of pressure. *S. G. O.*, 1929, XLVIII, pp. 498-500.

60. WANGENSTEIN, O. H.: The blood supply of the thyroid gland with special reference to the vascular system of the cretin goiter. *S. G. O.*, 1929, XLVIII, pp. 613-628.

61. RICHTER, H. M.: Thyroidectomy. *S. G. O.*, 1929, XLIX, pp. 67-75.

62. FOSS, H. L.: The pathology of toxic goiter. *S. G. O.*, 1929, XLIX, pp. 860-861.

63. POOL, E. H.: A technique for subtotal thyroidectomy in exophthalmic goiter. *S. G. O.*, 1930, L, pp. 1001-1004.

64. KESSEL, L., and HYMAN, H. T.: Exophthalmic goiter and involuntary nervous system. *J. A. M. A.*, 1925, Vol. LXXXIV, pp. 1720-1722.

65. HYMAN, H. T., and KESSEL, L.: Exophthalmic goiter and involuntary nervous system. *J. A. M. A.*, 1925, LXXXV, pp. 1017-1020.

66. ELSE, J. E.: Adenomatosis or the diffuse adenomatous goiter. *J. A. M. A.*, 1925, LXXX, pp. 1878-1882.

67. PEMBERTON, J. DEJ.: Present-day surgical treatment of the diseases of the thyroid gland. *J. A. M. A.*, 1925, LXXXV, pp. 1882-1886.

68. HARTSOCK, C. L.: Iodized salt in the prevention of goiter. *J. A. M. A.*, 1926, LXXXVI, pp. 1334-1338.

69. CLUTE, H. M.: Effect of compound solution of iodine and rest in surgery of exophthalmic goiter. *J. A. M. A.*, 1926, LXXXV, pp. 105-108.

70. HELMHOLZ, H. F.: Exophthalmic goiter in childhood. *J. A. M. A.*, 1926, LXXXVII, pp. 157-162.

71. SHUMAN, J. W.: Aphonia from goiter. *J. A. M. A.*, 1926, LXXXVI, pp. 1981.

72. LAHEY, F. H.: Substernal goiter. *J. A. M. A.*, 1926, LXXXVII, pp. 1282-1287.

73. BARTLETT, WILLARD: Recognition of the exophthalmic goiter patient unsuited to surgery. *J. A. M. A.*, 1926, LXXXVII, pp. 1279-1286.

74. DAVIS, C. H.: Thyroid hypertrophy and pregnancy. *J. A. M. A.*, 1926, LXXXVI, pp. 1004-1008.

75. MUSSEY, R. D., PLUMMER, W. A., and BOOTHBY, W. M.: Pregnancy complicating exophthalmic goiter and adenomatous goiter with hyperthyroidism. *J. A. M. A.*, 1926, LXXXVII, pp. 1009-1011.

76. ELSE, J. E.: A simple classification of goiter. *J. A. M. A.*, 1926, LXXXVII, pp. 1465-1466.

77. MARINE, DAVID: Simple goiter and its classification. *J. A. M. A.*, 1926, LXXXVII, pp. 1463-1464.

78. GRAHAM, ALLAN: Exophthalmic goiter and toxic adenoma. Clinical variations of a single disease. *J. A. M. A.*, 1926, LXXXVII, pp. 628-631.

79. RICHTER, H. M.: Thyroidectomy; its relation to the cure of thyrotoxicosis. *J. A. M. A.*, 1927, LXXXVIII, pp. 888-892.

80. SLOAN, E. P.: Tuberculosis and goiter. *J. A. M. A.*, LXXXVIII, pp. 1954-1956.

81. KESSEL, L., and HYMAN, H. T.: Studies of exophthalmic goiter and the involuntary nervous system. *J. A. M. A.*, 1927, LXXXVIII, 1478-1480.

82. KESSEL, L., and HYMAN, H. T.: Studies of exophthalmic goiter and the involuntary nervous system. *J. A. M. A.*, 1927, LXXXVIII, pp. 2032-2034.

83. READ, J. M.: Grave's Disease. Probable reasons for failure to discover its etiology. *J. A. M. A.*, 1927, LXXXIII, pp. 1697-1698.

84. BALDRIDGE, C. W., and PETERSON, F. R.: Splenic enlargement and hyperthyroidism. *J. A. M. A.*, 1927, LXXXVIII, 1701-1702.

85. PHILLIPS, JOHN, and ANDERSON, J. P.: Cardiac disturbances in goiter. *J. A. M. A.*, 1927, LXXXIX, 1380-1384.

86. ELSE, J. E.: Regeneration of the thyroid gland and the prevention of recurrent goiters. *J. A. M. A.*, 1927, LXXXIX, pp. 2153-2159.

87. TINKER, M. B.: The diagnosis and results of surgical treatment of malignant goiter. *J. A. M. A.*, 1928, XC, pp. 508-510.

88. FRAZIER, CHAS. B., and MOSSER, W. B.: End results from the surgical treatment of hyperthyroidism. *J. A. M. A.*, 1928, XC, 657-659.

89. KIMBALL, O. P.: The efficiency and safety of the prevention of goiter. *J. A. M. A.*, 1928, XCI, pp. 454-459.

90. THOMPSON, W. O., BRAILEY, A. G., and THOMPSON, PHEBE K.: The effective range of iodine dosage in exophthalmic goiters. *J. A. M. A.*, 1928, XCI, pp. 1719.

91. HOLLOWAY, T. B., FRY, W. E., and WENTWORTH, HAZEL A.: Ocular signs in 100 selected cases of goiter. *J. A. M. A.*, 1929, XCII, pp. 35-42.

92. COLE, W. H., and WOMACK, N. A.: Reaction

of the thyroid gland to infection in other parts of the body. *J. A. M. A.*, 1929, XCII, pp. 453-457.

93. COLLIER, F. A.: Adenoma and cancer of the thyroid. *J. A. M. A.*, 1929, XCII, pp. 457-462.

94. WOOD, F. C.: Radium and roentgen ray therapy. *J. A. M. A.*, 1929, XCII, pp. 894-897.

95. BOAS, E. P., and WEISS, M. M.: The heart rate during sleep as determined by the cardio-tachometer. *J. A. M. A.*, 1929, XCII, pp. 2162-2168.

96. PEMBERTON, J. DEJ.: Recurring exophthalmic goiter. Its relationship to the amount of tissue preserved in operation upon the thyroid gland. *J. A. M. A.*, 1930, XCIV, pp. 1483-1488.

97. FREUND, H. A., and COOKSEY, W. B.: Thyrotoxicosis in elderly persons without signs of goiter. *J. A. M. A.*, 1930, XCIV, pp. 1891-1893.

98. HAMBURGER, W. W., and LEU, M. W.: Masked hyperthyroidism. *J. A. M. A.*, 1930, XCIV, pp. 2051-2056.

99. HAINES, S. F., and BOOTHBY, W. M.: Value of oxygen treatment after thyroidectomy. *Am. Jr. Surg.*, 1929, VI, pp. 1-6.

100. JACKSON, A. S.: The use of iodine in hyperthyroidism. *Am. Jr. Surg.*, 1929, VII, pp. 7-10.

101. CLUTE, H. M.: Borderline hyperthyroidism. *Am. Jr. Surg.*, 1929, VII, pp. 11-16.

102. BREITNER, D. B.: The iodine question in animal experiments. *Am. Jr. Surg.*, 1929, VII, pp. 17-20.

103. ELSE, J. E.: The treatment of the desperate goiter patient. *Am. Jr. Surg.*, 1929, VII, pp. 24-27.

104. HUTTON, J. H.: The relation of goiter to other endocrine glands. *Am. Jr. Surg.*, 1929, VII, pp. 28-31.

105. KEMPER, C. F.: Injuries to the parathyroids. *Am. Jr. Surg.*, 1929, VII, pp. 32-37.

106. GUTHRIE, DONALD: Thyroidectomy technique. *Am. Jr. Surg.*, 1929, VII, pp. 631-633.

107. MASON, J. T.: Immediate preoperative treatment of goiter. *Am. Jr. Surg.*, 1929, VII, pp. 213-216.

108. MCGUGER, J. K.: The "Atypical" in thyroid work. *Am. Jr., Surg.*, 1929, VII, pp. 217-220.

109. COLE, W. H., WOMACK, N. A., and GRAY, S. H.: The thyroid in infections and toxemias. *Am. Jr. Surg.*, 1929, VII, pp. 221-229.

110. ELSE, J. E.: Anatomical variations in the thyroid as a cause of recurrence. *Am. Jr. Surg.*, 1930, VIII, pp. 92-97.

111. RUDDOCK, J. C., and TOLAND, C. G.: Management of the thyroid heart. *Am. Jr. Surg.*, 1930, VIII, pp. 975-979.

112. MAINGER, F. S.: Mediastinitis following the removal of the thyroid. *Am. Jr. Surg.*, 1930, VIII, pp. 817-819.

113. STOUT, R. B.: Superficial cervical plexus block anesthesia for thyroidectomy. *Am. Jr. Surg.*, 1930, IX, pp. 68-70.

114. SUTTON, D. C.: Non-surgical treatment of hyperthyroidism. *Am. Jr. Surg.*, 1930, IX, pp. 118-123.

115. SORLAND, A., COSTOLOW, W. E., MELAND, O. N.: Place of radiotherapy in toxic thyroid disease. *Am. Jr. Surg.*, 1930, IX, pp. 123-126.

116. RICHTER, H. M.: The place of radiotherapy in the treatment of thyrotoxicosis. *Am. Jr. Surg.*, 1930, IX, pp. 115-118.

117. JACKSON, A. S., and EWELL, G. A.: The danger of the prolonged use of Lugol's solution in the treatment of exophthalmic goiter. *Am. Jr. Surg.*, 1930, IX, pp. 475-482.

118. DECOURCY, J. L.: Surgical goiter. *Am. Jr. Surg.*, 1930, IX, p. 482.

119. CLUTE, H. M.: Operative mortality in hyperthyroidism. *J. A. M. A.*, 1930, Vol. XCV, pp. 389-393.

DISCUSSION

DR. C. B. MORTON, University, Va.:

(Dr. Morton was detained at home by illness, but contributed a written discussion)

Dr. Keyes' discussion of the surgical treatment of goiter has been most interesting. As he stated, the literature on the subject has become so voluminous in recent years that an occasional review for the purpose of taking stock and correlating the data is most essential, albeit rather difficult.

Certainly two of the outstanding contributions to our clinical knowledge of thyroid disease in recent years are the introduction of iodine therapy by Marine, Plummer and others and the involutional concept of thyroid disease as described by Rienhoff, Lewis, Hertzler and others.

Simple goiter without thyrotoxicosis from the surgical standpoint rather rarely presents major difficulties. The technical details of subtotal thyroidectomy have been refined to a high state of perfection. A combination of local and light inhalation anesthesia, accurate hemostasis and avoidance of the recurrent laryngeal nerves practically insure success. In this connection the pre-operative examination of the vocal cords and roentgenologic examination of the chest are important. Early thyroidectomy for simple goiter will certainly decrease the incidence of malignant change, the subsequent development of thyrotoxicosis and very large goiters that add to the risk of operation because of their great size.

In the goiter with thyrotoxicosis it is not so essential to quibble over the difference between the nodular goiter with hyperthyroidism and the exophthalmic goiter as it is to recognize that there is a clinical difference. Many discrepancies in the reported efficacy of iodine in these two groups probably arise because of the difference in the criteria of different observers in their diagnoses in the two groups. Another source of confusion is the so-called mixed group in which hyperplasia and the involutional or regressive nodular changes are coexistent. Here again early surgery will greatly decrease the risk of operation and decrease the incidence of the iodine-fast case. It is unfortunate that so many cases reach

the surgeon only after prolonged iodine therapy and when they have reached the iodine-fast, or refractory, state. Great progress will be made in this respect when surgical consultation is sought by the internist early and when iodine is administered under joint direction and observation. In cases of thyrotoxicosis iodine is a medication for pre-operative use and not one of curative value. Thompson and his co-workers have reported a few cases of very mild thyrotoxicosis in which iodine seemed to give some permanent relief but, because of the uncertainty and danger attending its use as a therapeutic agent they advise against its use as such.

The relationship between the basal metabolic rate and the degree of thyrotoxicosis is an interesting one. There is apparently a rather wide variation between the normal figure in different individuals, some having low normals and some high. Repeated checks and correlation with the clinical picture are essential.

Studies of postoperative results in cases of thyrotoxicosis are interesting. Figures vary a good deal, one observer in Detroit recently reporting 56 per cent of cases clinically cured or much improved, 34 per cent less definitely improved and 10 per cent with recurrences. Even if not entirely satisfactory in all cases subtotal thyroidectomy is certainly the best and most satisfactory treatment at our command today.

Subtotal thyroidectomy in thyrotoxicosis may be looked upon as substitutional therapy. Were all the thyroid removed myxedema would be substituted for the hyperthyroidism. The ideal surgical result is that in which the proper amount of thyroid tissue is removed to strike a balance between hyperthyroidism and myxedema. When our knowledge of the interaction of the thyroid and other endocrine glands progresses and we are able to understand better the true etiology of thyrotoxicosis some constitutional treatment may be developed. Until that time surgery will remain preeminent.

DR. F. C. RINKER, Norfolk:

I have enjoyed Dr. Keyser's paper a great deal, but I am forced to take issue with him on one point. It seems to me a very dangerous statement when we say that every case of tumor existing in the thyroid except the colloid type is a surgical condition. I can not accept that. Those of us who have lived in the goiter belt, as I did for six years, have seen tumors of the thyroid in about 60 per cent of the women and about 24 per cent of the men. It seems to me it would be a wonderful place for surgeons to locate if we were going to operate on all thyroid enlargements. But it seems to me we find many undoubted cases of thyrotoxicosis as a result of infections elsewhere in the body. I have seen thyrotoxicosis existing as the result of infection in the cervix or in the tonsils or in the sinuses, and after those infections were removed the tumor has gone down in size and the thyrotoxicosis symptoms have been relieved.

I rise simply to take exception to the statement that any tumor of the thyroid, other than the colloid type, is a surgical condition.

DR. ADDISON G. BRENZER, Charlotte:

Dr. Keyser, speaking of the metabolic rate, said that we could not use the metabolic rate alone in judging of these cases. I think that is true, because just as in any other poisoning, from alcohol or otherwise, the susceptibility of the individual to that poison differs. Patients vary in their susceptibility to the thyroid toxin. Why it is that one person develops exophthalmic goiter, and others do not, was illustrated beautifully during the war. Certain soldiers, put on a terrible drive, would develop effort syndrome and exophthalmic goiter. I had one case recently in a man who was in a railroad wreck and was caught under the caboose and thought he was not going to get out, and who made a tremendous effort. In 24 hours he had developed a severe degree of exophthalmos.

In hypo-ovarian women, where the ovaries have been removed or the secretion cut down, exophthalmic goiter has been rather prominent.

I am in favor of taking out almost all. I have had quite a number of recurrences, in spite of the fact that I left only a small strip alongside the trachea. In cases of fulminating thyrotoxicosis we ought to take out practically all of it. I have operated on certain cases two or three times, and at the second or third operation there was an appreciable lump of thyroid tissue there. Of course, after every such operation the scar tissue developing leads to the danger of interfering with the parathyroid, particularly, and possibly the recurrent laryngeal nerve. As much as you would like to have it smooth and easy, it is not.

Now, about iodine; I have given pretty big doses of iodine, and at least two or three patients have come out. You know it has been said that a small amount of iodine will do as much good as a large dose, but that has not been true in my experience. At least two patients that I thought were going to die recovered. A thyroid death is a horrible thing to witness, and any effort we can make to avoid that is well worth while.

DR. B. C. WILLIS, Rocky Mount:

I agree with Dr. Keyser that the iodine-fast goiter cases are the dangerous type to operate upon. I shall not discuss his paper further, but I desire to report one of these unhappy cases of exophthalmic goiter.

I have attended many scientific meetings but have never seen anything like this case reported or discussed.

A married, man, 33, first seen as an out case August 22nd, 1929. Basal metabolic rate plus 45. Entered the hospital September 24th and was discharged October 11th, 1929. History of tiring easily, eating heartily, sweating profusely and having frequent attacks of hoarseness. Blood-pressure 135/70. Weight 108. Blood urea 37 mg. per 100 c.c. Blood Wasser-

mann negative. Was given Lugol's and digitalis. September 27th basal metabolic rate still plus 45; on October 1st the rate was plus 21. He was considered ready for operation October 2nd and a bilateral lobectomy was done with removal of about 85 per cent of the right lobe and 90 per cent of the left. On the second day his temperature went to 104, pulse 120. These came to normal on the sixth day. On November 10th the basal metabolic rate was minus 12; on November 24th minus 1. On January 10th his rate was plus 13. His metabolic readings have ranged from plus 36 to plus 18 from September 29th, 1930, to February 15th, 1931. There has been progressive exophthalmos ever since operation. It increased very rapidly during the hypothyroid state, and he was put on Lugol's solution and thyroid extract to bring him back to normal as rapidly as possible. He has lost the sight of both eyes and has marked weeping, his symptoms coming on about three months after operation. The eyeballs were bulged forward, and there was thickening and edema of the conjunctivae.

I think it well to bring to the attention of the society such a case, for I believe there are others that have not been reported, and one should bear these cases in mind so as to warn patients as to what may happen to them regardless of surgery.

In Dean Lewis's surgery, in an article by Reinhoff, he gives the following theories as to the cause of extreme exophthalmos: "In the early stages the eyeball can be pressed back into the orbit, but later on the development of retrobulbar fat prevents the replacement. Even removal of this fat by operation, together with resection of the superior cervical sympathetic ganglion of the same side in one case, failed to bring about a reduction of protrusion. The cause of exophthalmos is not definitely known but has been attributed to overstimulation of the sympathetic fibres to the orbital muscle of Muller, with or without weakness of the orbicularis oculi. Experiments by MacCallum and Cornell support this view. Others explain it by overstimulation of Landstrom's cylindrical band of muscle, which runs from the orbital septum to the equator bulbi; while still others hypothesize a direct action of the lobe of the thyroid gland on the sympathetic trunk of that side."

DR. KEYSER, closing:

Dr. Rinker pulled the exception on me. Thyroiditis does produce a type of enlargement of the thyroid gland which at times is non-surgical. In fact, it is non-surgical unless it does one of two things; unless it suppurates or unless the hyperthyroidism stimulated by thyroiditis persists, which is usually not the case. This is a transient hyperthyroidism. Aside from that the role of infectious disease in producing hyperthyroidism has not been established. I am afraid that I shall still have to say that *almost* and *never*, while bad words in medicine, come as near applying to nodular thyroid disease as anything

I know of. So I would feel that the burden of proof would be on the side of allowing the goiter to remain.

I was much interested in the case of exophthalmos that Dr. Willis showed. I think that is very unusual. I have never seen anything like that before in the several thousand cases of thyroid disease I have seen.

As to the question of persistence, I have under observation at the present time a patient whose operation I saw; I did not do it. Unfortunately, he is in my hands now. This boy was 18 years old. He had bilateral lobectomy done, with a reasonable amount of tissue left behind. His rate before operation was in the 50's and is over 100 now. He is progressively losing ground. He has acne papules all over his skin and a grayish tinge to his hair, showing that other glands are mixed up in this. There are phases to thyroid disease that we do not understand. Crile has written recently on the adrenal glands in relation to the thyroid, showing how one may influence the other. This boy has had his iodine, and probably we shall have to do a lobectomy, one side at a time, although he has only a minimal amount of tissue left. In some cases the thymus is removed; that is another interesting factor.

All of these things are interesting, and I appreciate the discussion.

INSULIN ANGINA

(Parsonnet, A. E., Newark, N. J., and Hyman, A. S., New York City, in *Annals of Internal Medicine*, April, 1931)

Sufficient evidence is at hand to show that the heart muscle gives up its glycogen rather reluctantly but that this is influenced to a highly sensitive degree by many endocrine substances, especially adrenalin, pituitrin, thyroxin, as well as insulin. It is especially important to recognize that these substances, while developing only minor alterations in the normal heart may be productive of widespread change in the diseased heart.

Where arteriosclerosis is known to be present careful examination of the heart should be routinely undertaken before insulin therapy is started. Electrocardiographic studies may be of the utmost value in determining the selection of cases suitable for insulin treatment. In the cases quoted, coronary arterial disease was unsuspected until the clinical syndrome of occlusion had fully developed; all of these cases suffered coronary seizures but a few hours after insulin administration. It is interesting to note that in none of these cases did the blood-sugar levels fall below the so-called margin of safety. For this reason, the attacks can not be regarded in the light of hypoglycemic shock.

Where diabetes is complicated by known cardiovascular factors we have studiously avoided insulin therapy until all dietary measures have failed to produce results commensurate with safety.

Spontaneous Subarachnoid Hemorrhage*

R. FINLEY GAYLE, JR., M.D., and R. B. EASLEY, M.D., Richmond, Va.

Associate Professor of

Instructor in

Nervous and Mental Diseases

Nervous and Mental Diseases

Medical College of Virginia

The incidence of the rupture of a blood vessel into the subarachnoid space of the brain from various causes is not uncommon. It is, however, infrequently recognized except by those interested in organic neurology or by those who are constantly on the alert for this phenomenon. There are relatively few cases reported in the literature, and little or nothing can be learned of this clinical entity from the textbooks of medicine or neurology.

The earliest mention of subarachnoid hemorrhage in the English literature is the report of Bramwell's which appeared in 1886, followed in 1903 by a somewhat similar report of Froin's. Both of these authors, however, included head trauma cases in their discussions. It was not then until 1912, when a series of cases were reported by Ehrenberg, that spontaneous subarachnoid hemorrhage was described as a clinical entity. In 1914 Leopold very ably discussed this subject, and nothing further of note appeared for several years. Among the most recent papers are those of Neal and of McIver and Wilson.

One seldom thinks of cerebral hemorrhage occurring in the young except in head trauma cases, but it is now a well recognized fact that there are many reasons for the occurrence of a hemorrhage into the spinal fluid spaces in those individuals who have not had cerebral trauma. Brain hemorrhage in young individuals is most frequently erroneously attributed to meningo-vascular syphilis, nor does every older individual who has a hemorrhage into the brain substance or into the subarachnoid space necessarily have cerebral arteriosclerosis. Some additional causes of this condition are vascular hypertension, the toxic infectious diseases including encephalitis and meningitis, the hemorrhagic diatheses, neoplasms of the central nervous system, and aneurysm of a cerebral artery—either congenital or acquired. There have been reported cases of the spontaneous rupture of a cere-

bral vessel into the subarachnoid space following lumbar puncture, which rupture was attributed to a sudden diminution in the cerebro-spinal fluid pressure, thereby causing a lack of uniform support to a diseased vessel wall. The condition, therefore, of spontaneous subarachnoid hemorrhage, occurs in both young and elderly persons alike.

Prodromal symptoms of the disease are frequent, and are usually present except in the cases of the cerebral congenital aneurysm group. Most of these individuals have been sick for a period of time, and there has been either a suspicion or an actual certainty, of central nervous disease of long standing. There is, however, no symptom syndrome which would lead us to foretell this type of cerebral vascular accident. The most striking and the most constant subjective symptom of spontaneous cerebral hemorrhage is the acute onset of severe pain in the back of the head or in the back of the neck, radiating to the vertex, which pain is often accompanied by immediate unconsciousness and always by a certain amount of mental cloudiness. The onset may immediately follow or accompany physical exertion such as lifting or straining at the stool, coughing, sneezing, and other conditions which bring about a venous congestion with a subsequent increase in arterial pressure, causing the vessel to break at its weakest point. The patient may promptly die or his mental cloudiness or coma may subside without therapeutic intervention. Vomiting frequently occurs, and other evidence of increased intracranial pressure may be exhibited by the presence of localized or generalized convulsive seizures. The blood pressure usually falls somewhat below its normal level, the pulse is often slowed, and respiration may be somewhat embarrassed. Hemiplegia may occur and cranial nerve palsies may or may not be present. Choked disc and retinal hemorrhage are not uncommon,

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

and were observed in our most recent case. Meningeal irritation as shown by a rigidity of the neck, Kernig and Brudzinski signs are common findings. On the other hand there may be pyramidal tract signs as evidenced by a positive Babinski's sign and a generalized hyperreflexia.

Examination of the spinal fluid is of great importance, in that it firmly establishes the diagnosis. The blood is uniformly mixed with the spinal fluid in cases of subarachnoid hemorrhage. It does not clot upon standing, and upon centrifugation the supernatant fluid is decidedly yellow in color. In those cases in which bloody spinal fluid is obtained as a result of trauma produced by the needle—a so-called bloody tap—successive tubes do not show a uniform mixture, and the fluid is blood streaked. Clotting takes place upon standing and centrifugation causes a precipitation of the red blood cells. The supernatant fluid is clear, and is usually colorless.

The outcome of these cases of spontaneous subarachnoid hemorrhage depends to a large degree upon the etiology of the hemorrhage. In cases of encephalitis and of meningo-vascular syphilis and certain toxic meningeal irritations, there is usually a good chance of recovery. It is important to do repeated spinal punctures so that the blood which has been exuded into the subarachnoid space may be withdrawn so as to prevent the formation of adhesions between the pia and arachnoid, which may at a later date be the cause of distressing sequelae such as epilepsy and various other disturbances of the function of the brain. Likewise, repeated punctures give marked relief of symptoms, as it not infrequently happens that the spinal fluid pressure is higher in the second and third puncture than in the first. Consequently, relief is brought about by reducing the intracranial pressure as well as by the removal of the blood which causes meningeal irritation. Care should be taken, however, that the intracranial pressure be not reduced too rapidly, because it might result in further bleeding from the original site of the hemorrhage. It is important, therefore, that spinal manometers be used in each of these drainages so that a close watch may be kept on the exact pressure readings. The use of a 50 per cent solution of glucose intravenously may at times be

helpful in the reduction of an increase in the intracranial pressure.

In summarizing we wish to call attention to the following points:

1. That spontaneous subarachnoid hemorrhage is not uncommon.
2. The onset is sudden and is usually accompanied by characteristic head pain.
3. There may or may not be objective physical signs.
4. Spinal fluid analysis is the criterion of diagnosis.
5. Repeated spinal puncture is the most valuable therapeutic measure.

—Professional Building.

DISCUSSION

DR. FRANK REDWOOD, Norfolk:

I have been interested in this condition for four or five years, and in 1927 I reported my first case at the Southern Medical Association. I am sure that before that time I had seen several cases which I failed to recognize. Since then I have seen a number of other cases. Just a few months ago I was asked to see a woman who had developed a very terrific and sudden headache in the back part of her head. When I saw her she had the usual signs of meningitis and still had the pain in the head. The fluid obtained on lumbar puncture was bloody. There was just as much blood in the second tube as in the first. The puncture relieved her headache immediately. On getting further history in that case, it was learned that she said she had eaten something the night before that she thought was going to make her sick and, thinking prevention the better part of cure, she stuck her finger down her throat and made herself vomit. Having started vomiting, she could not stop; and it was during one of these retching attacks that the pain in the head came on.

A spontaneous hemorrhage is hemorrhage due to something other than trauma and other than arteriosclerosis. That brings up the most interesting point of what is the cause of these conditions and what are the mechanics of the production of these hemorrhages. I think there are a number of causes, as can be easily brought out, rather than any single cause; and I believe if we in any of the cases knew the true state of affairs we would find probably it is due to some previous infection and deposit of fibrin on the inner surface of the dura which has become rich in blood vessels. We know that the brain has no movement from side to side, due to the falx; but we know that the brain can move a little from before backward, and when vomiting or even sneezing occurs we might say there is a slight antero-posterior dislocation of the brain which may be enough to start up a hemorrhage. I think a lot of

these hemorrhages are due to aneurysms, small aneurysms. Some are due to a congenital or acquired weakening of the blood-vessel wall. There may be a deficiency in some of the factors concerned in coagulation; I have in mind particularly a calcium deficiency in one of my cases. This patient had a low calcium reading, and we gave her calcium by mouth and parahormone and thought it did good. At any rate, the calcium came up to normal, and the patient got well.

I agree with Dr. Easley in his treatment, entirely. I would agree in the doing of a very cautious lumbar puncture. Certainly there is danger of increase of the hemorrhage, of starting it up again. There is a possibility of having hemorrhage in the brain substance itself in the absence of arteriosclerosis. That was demonstrated to me not so long ago in a young girl who had tremendous hemorrhage in the brain substance. This girl I had looked after about eight years before, during an attack of lethargic encephalitis. At the autopsy we could find no cause for the hemorrhage at all, no arteriosclerosis, no aneurysms; nevertheless she had this tremendous hemorrhage. The supposition was that the previous attack of lethargic encephalitis had weakened a blood-vessel, which broke, causing this hemorrhage.

DR. EASLEY, *closing*:

I thank Dr. Redwood for his discussion.

It was our purpose in writing this paper not to bring out anything new but simply to call attention to something that occurs quite frequently and which is very frequently overlooked.

PUERPERAL COMA: RAPID RECOVERY AFTER INTRODUCING AIR INTO BREASTS

(Kininmonth, J. G., Hovingham, York, *British Medical Journal*, March 7th, 1931)

A healthy primipara, aged 21, delivered readily and without tears of a healthy baby by forceps after rotation of head from occipito-posterior position, did well for 48 hrs., then troubled with nausea and vomiting. Third day temp. 101, p. 128, looked ill, had epigastric pain, physical exam. negative. Next day was added icteric conjunctivae and tenderness over liver. Given glucose and salines. Seemed dazed. Next morning stupefied, speech unintelligible, t. 102.8, p. 140. Five c.c. pituitrin and rectal saline given. In few hours quite comatose, t. 100, p. 120, pupils dilated but reacted to strong light. Knee- and ankle-jerks normal, chest and vaginal examination negative. Catheter specimen of urine gave pure culture of *B. coli*. White count 27,000—p. 84, l. 10, m. 6, no eos. or bas. Next day (6th post-part.) condition unchanged, seen by consultant, who thought condition similar to "milk-fever" of cows and advised inflation of the breasts with air. This was carried out with a sterile syringe attached to an exploring needle thrust well into the breast substances. The nipples were taped to prevent escape

of air. Two hours later she indicated she desired a cup of tea, in two days she looked and felt quite well and from this went on to uninterrupted recovery.

Milk fever (which is well known in the female of nearly all large domestic animals, but does not appear to have been described in woman) is associated with a marked reduction in the blood calcium, the result of parathyroid inability to cope with the drain on calcium resulting from the establishment of lactation. The specific effect of inflation of the breasts is apparently mechanical prevention of further passage of calcium from the blood to the glands and probably some resorption to the blood from the glands. Intravenous injection of calcium gluconate has brought about recovery.

PUERPERAL MORTALITY AND ITS REDUCTION

(Kosmak, G. W., New York, *Bulletin New York Academy of Medicine*, April, 1931)

A tendency to interfere with the natural course of labor by various operative and other procedures is undoubtedly one of the most serious accusations which the profession will have to face. On the one hand there is the demand of the patient for a shortening of her labor, stimulated as it has been by widely circulated magazine articles and other propaganda, to which desire for relief the physician is only too ready to accede, perhaps for reasons of his own. And then on the other hand is that increase in technical knowledge about obstetric deliveries which is so valuable in the hands of the highly trained specialist and so dangerous if practiced by his less competent colleague. And how may the unfortunate result of these circumstances be combatted? I believe very firmly that it is only by the proper education of our medical students, by giving them a well-balanced general education in medicine, rather than a smattering of the various specialties, that they will possess a thorough knowledge of the physiologic processes of labor, and above all, a recognition of any deviations from the normal.

The United States have been almost labelled as a pariah among the nations in so far as its care of the pregnant woman is concerned. In the European countries with which our statistics have been compared there is also an admitted lack of satisfaction with conditions as they are. Objections have been directed to the education of medical men in theoretical rather than practical subjects. In obstetrics particularly the objection has been brought forward that the attempt is made to train students in operative procedures rather than the conduct of normal deliveries. The acceptance of the health insurance system has contributed to the problem, for many obstetric operations are now being done which would have been considered unnecessary had there not been present the stimulus of an increased fee from the insurance fund, which would not have applied in a normal delivery.

Report of a Case of Suppurative Peritonitis With Remarks On Drainage*

Southgate Leigh, M.D., F.A.C.S., Norfolk, Va.
Sarah Leigh Hospital

The object of this paper is to stress the vital importance of free drainage in cases of suppurative peritonitis from acute appendicitis without adhesions.

A recent typical case will serve as an example:

A young married woman with one child, was taken 36 hours previously with nausea, vomiting and moderate pain. She had been given two hypodermics of morphine.

There was marked tenderness and moderate rigidity but no distension. The blood picture showed white cells 17,200 and polys. 93 per cent. The urine showed a trace of albumin and positive acetone. Temperature was slight and pulse a little accelerated.

Under nitrous oxide-oxygen and novocaine anesthesia a transverse incision was made and the appendix found gangrenous, ruptured near its base and not adherent. There was about a pint of free pus in the pelvis. This was carefully sucked out.

Two soft rubber tubes, one large and one small, with small side perforations, were passed down into the pelvis and brought out at the outer end of the incision.

The wound was thoroughly antisepticated and sutured in layers with chromic catgut and a few safeguarding silkworm-gut stitches, being closed snugly up to the tubes. Into each tube was inserted a narrow strip of gauze packing down to its bottom.

The bed was elevated high enough and the patient placed on the right side, in such a position as to make the outer ends of the tubes lower than the pelvic ends; this, of course, for the purpose of aiding by gravity in the complete discharge of all abdominal and pelvic fluids. By the drip method a large amount of fluid was gotten into the rectum, retained and absorbed. So much was absorbed that fluid was given by the vein only twice. Fluids by mouth were started early. There was very little nausea. The

temperature ran from 99½ to 102 for the first five days, and then slight for four days. Glucose was given intravenously twice. For five days the wicks of gauze in the tubes were replaced morning and night. Suction each time brought very little fluid.

The important point, however, and the one on which great emphasis must be laid, is that during the entire five days there was a constant and profuse discharge of thin pus, requiring frequent change of outside dressings. On the eighth day the tubes were removed and replaced with simple rubber dam. Dakin's solution, made strictly according to Carrell's formula, was used from the 11th to the 16th day. The bad odor disappeared promptly on the institution of this treatment and the sinus was rapidly sterilized.

Subsequent healing was uneventful. The sutured wound remained clean. The frequent applications of alcoholic acetone mercurchrome materially aided in this. The bowels moved readily and easily by enemas at first and later by cathartics.

Careful and most intelligent coöperation on the part of the patient aided greatly in the post-operative handling. The resultant scar is strong and with care will cause no after trouble.

Twenty-three years ago, at the Mayo Clinic, that great free school of surgery, the essayist saw a case similar to the one under discussion, drained by means of a straight glass tube, passed down into the pelvis.

A little later he operated on a desperate case in Elizabeth City, of a seven-years-old boy, who had a very large amount of free pus in the abdomen and who already was vomiting fecal matter. The operation was performed in a private house and on looking over the instruments and supplies, it was found that only very small drainage tubes were available. A local doctor was asked to get a large rubber tube and he brought in a piece

*Presented to the Tri-State Medical Association of the Carolinas and Virginia, meeting at Richmond, February 16th and 17th, 1931.

that had been used as a gas pipe.

This was the largest tube we have ever used, but it proved to be life-saving and aided in the complete recovery of the patient. We were fortunate also in having an unusually resourceful and forceful nurse in charge of the patient. Success in that desperate case caused us to make a study of tube drainage and to develop a tube soft enough not to damage the tissues but with walls thick enough to prevent its collapse.

We believe this kind of tubing to be essential in such drainage.

It is manifestly impossible for fluids in any quantity to come out through cigarette drains or even collapsible rubber-dam tubes, and small rubber tubes get easily clogged.

We have discussed this method of drainage with numbers of surgeons and practically all of them criticise with the statement that adhesions form around the tubes so quickly that drainage cannot continue. Our reply is that adhesions are delayed, and may be delayed for a considerable period of time, by forcing a very large amount of fluid into the vessels of the abdominal and pelvic cavities. In the case under discussion the patient absorbed from the rectum a very large amount (in one 9 hours 1300 c.c.) If such had not been the case, a sufficient quantity would have been given under the skin or into the vein from time to time. Our experience has been that the over-charging of the abdominal and pelvic vessels really makes them throw off fluid, thus further delaying the forming of adhesions.

The elevated and right-side position, so arranged that the outer ends of the tubes are at the lowest point, aids greatly in the free drainage. If there is doubt in anyone's mind regarding what gravity will do in such cases, let him recall some of his own cases and note whether they were brought to the hospital sitting up or lying down.

To illustrate the vital importance of *position* in transportation, let me mention the case of a railroad man, who came 100 miles, partly on train and partly in automobile. He was warned not to lie down. On opening the abdomen, the pelvis was full of pus, the appendix gangrenous and ruptured and there were no adhesions. He was handled as in the case

under discussion and made as good a recovery.

In our hands the transverse incision is most helpful, especially in lessening the incidence of postoperative hernia. The incision is made through the fascia of the external oblique with separation of the fibers of the muscle of the internal oblique and transversalis. In order to carry the drainage tubes far out to the right it is often necessary to cut some of the muscle at that point. This does not materially weaken the wall.

All of these cases are difficult and dangerous and success depends upon the most accurate and detailed attention to every point in the treatment on the part of nurses and doctors. The most difficult cases are among children and with them it is more often necessary to infuse. For the first few days, these cases have to be "watched every minute of the time." At times transfusion is needed. Glucose is often helpful, as is also lavage. It is remarkable how few cases have trouble from obstruction, but it does occur, though it can usually be relieved by simple enterostomy.

We have observed our cases very closely and are confident we are right when we say that the forcing of large amounts of fluids into the circulation materially delays the formation of "shutting off" adhesions, giving time for all septic fluids to gravitate to the tubes and be carried off.

Otherwise in all of these cases we would have had multiple abscesses to deal with. Take our last three cases, the two mentioned and that of a small child. All of them recovered without complications.

We believe that some of the complications in our earlier work came from not getting in sufficient fluid and *getting it in early*.

In the case under discussion, the large amount of the discharge, its thinness and its coming away continuously for an extended period of time, practically proves that complete shutting-off adhesions had not formed.

The mortality in appendicitis is on the increase and possibly from many causes. We feel that free drainage with its adjuvants as outlined above, with the most constant and devoted care in these desperate cases, would do much towards removing this reproach to modern surgery.

Notes On Diagnosis and Treatment

A Column Conducted By

THE STAFF OF THE PARK VIEW HOSPITAL
Rocky Mount, N. C.

For this issue, E. S. BOICE, M.D.

THE HIGH MORTALITY IN ACUTE APPENDICITIS if not actually rising, shows little decrease. One reason for this is the too prevalent idea that appendectomy is a simple operation which almost anyone can perform. Another is the late stage in which so many cases reach the operating table. Leaving out the neglected patients who call a physician too late, there is still a high proportion of deaths due to incorrect or delayed diagnosis. Some of this is unavoidable due to various inherent difficulties, but too often the trouble is with a too perfunctory history and examination or an incorrect interpretation of findings.

The condition when first seen may easily mislead us if we don't try to reconstruct the history from the beginning. When did the patient first feel bad and how? If there was abdominal pain always keep the appendix in mind. Where was the first pain? If appendicitis, almost always around or above the umbilicus, very frequently in the epigastrium. Sometimes the pain begins across the lower abdomen, but if such a patient is a woman think also of the tubes. Again, sometimes, the pain begins in the "appendix region." Eventually the pain does localize at or near McBurney's point in most instances, but if it starts there, with no other abdominal involvement, think also of a kidney condition. Many of our kidney cases and most of the tube cases come in with a diagnosis of appendicitis, a safe and often unavoidable mistake, but none the less embarrassing to the physician if he has not mentioned the possibility of an alternate diagnosis to the patient. A more disastrous error is to overlook a pneumonia, yet this has happened many times, especially in children. Often repeated and most painstaking examinations including the use of the x-rays is necessary to settle this important point.

If there is pain how severe is it? In appendicitis the patient frequently gets along fairly well without an opiate. If more than 1/8 or 1/6 grain of morphine is needed, think also of such possibilities as kidney or gall-

bladder colic. In any event, for fear of masking symptoms and encouraging disastrous delay, don't be in too great a hurry to ease the pain.

Was there nausea and if so when? Usually there is and it practically always *follows* the pain. If the reverse, think of a gastro-intestinal upset; but don't treat the case as such until absolutely certain, remembering that while diarrhea doesn't usually occur with appendicitis it may. George Ben Johnston often said, "Quit talking about what the patient has eaten and think about what may be going on inside of him." Also, "Never give a purge in an undiagnosed abdominal condition." Of course no *good* doctor gives a purge if acute appendicitis is suspected, and he may well be wary also of an enema with the resulting reversed peristalsis, especially if the condition is at all advanced.

Is there tenderness or rigidity? Gentle palpation over the whole abdomen and flanks, coming to the appendix region last, may obviate an erroneous snapshot opinion and is not so likely to stir up a misleading voluntary rigidity. True involuntary rigidity may be absent especially in pelvic and retrocecal appendices. Tenderness may be surprisingly diffuse, but is greatest over the appendix, which does not necessarily mean at McBurney's point. One-finger palpation is best for accurate localization, and this is valuable since it enables one to use a smaller incision, preferably of the muscle-splitting type, and so limit soiling of uninvolved bowel more than is often possible if an exploratory incision is made and the location of the appendix determined after the abdomen is opened. Tenderness in the kidney region suggests a kidney condition of course but it may mean a high-lying appendix. Rebound tenderness, brought out by a sudden release of gradually produced deep pressure, usually means a fairly advanced condition with free peritoneal fluid and argues against further delay.

Rovsing's sign—the production of pain in the appendix region by exerting pressure over the descending colon—will be found to be very reliable but not infallible. Rectal and vaginal examinations are of course invaluable, and their neglect is responsible for many errors in diagnosis.

Fever is variable but rarely high, especially early. If 103 or more, rule out pyelitis or

tube infection, but don't make a diagnosis of pyelitis from a voided specimen of urine. A rapid pulse points to a serious condition, particularly if the patient is not excitable. Leucocytosis also is variable but is most helpful when considered along with other findings. A differential is more valuable, the high poly. count being much more significant of trouble than the total leucocyte count.

The so-called typical symptoms do very well for the typical cases, but far too many cases are not typical, and in these instances repeated history taking—avoiding leading questions—and repeated examinations will fully repay the time and effort expended. This is particularly true of children and the aged. Many persons have the erroneous idea that the extremes of age are more or less immune to appendicitis. Furthermore, in both the young and the old the onset often seems to be insidious and the course rapid, the net result of all which being that a high percentage of suppuration is found at operation in patients who can ill afford to be thus handicapped.

In any case where there is doubt it is safer to operate than to take undue chances by waiting for a definite diagnosis. This is particularly true if the patient is a female, as the secondary involvement of the female pelvic organs in an appendiceal suppuration is nothing short of disastrous. If the woman happens to be pregnant operation is urgently demanded, and if done early in the disease usually does not cause a miscarriage. If the appendix goes on to suppuration there is grave danger of a secondary septic involvement of the uterus with a probable fatal outcome.

EPISIOTOMY AS ROUTINE FOR PRIMIPARAE

(Sellers, T. B., and Sanders, J. T., *New Orleans, in New Orleans Medical and Surgical Journal*, May, 1931)

Prenatal recognition of abnormalities through routine examinations, the administration of anesthesia, and the judicious use of mechanical aids and operative procedures will greatly reduce the occurrence of avoidable injuries.

In order to lessen the possibility of injury to the levator ani, episiotomy should be done on all primiparae. [Italics ours.—S. M. & S.]

Recent injuries to the canal should be repaired immediately following delivery unless the condition of the patient contraindicates. Old lacerations of the perineum have a far-reaching local and systemic effect and should be repaired as soon as soon is practicable.

THE SPLEEN

(McNee, J. W., *London, in The Lancet (London)*, May 2nd, 1931)

I have been unable to discover it even after much search, that the spleens of Greek runners even in the earliest times were removed to increase their speed and endurance. Gurlt, in his monumental *History of Surgery*, gives no clue to the origin of this tradition, and apart from giving the reference to Pliny, just described, he merely mentions that the subject is referred to in the ancient Hebrew *Talmud*.

In 1722, William Stukeley gave his Goulstonian lecture to the Royal College of Physicians of London, On the Spleen: Its Description and History, Use and Diseases. Some of his introductory remarks are delightful.

"The uses of the apparatus [*i.e.*, the contents of the abdominal cavity] are by the industry of the Curious pretty manifest, except that of the Spleen; which yet has not fail'd to be a subject of enquiry in all ages, and has rack'd the brains of physicians as well as the bowels of their patients. . . ."

"I take it for granted that in common way of living we make more blood than is just necessary for the occasions of life; and without this provision, we should be subject to a thousand inconveniences."

"She would be a very imprudent and improvident mother, or rather stepmother, that was so niggardly as only to take care of supplies the moment we want it."

"Even regular exercise and muscular motion . . . demand a considerable plentitude of juices; and if there was not more than enough, we should be continually fainting."

"Therefore this so necessary a surcharge of blood, I suppose so regulated by the spleen, as that no inconveniences arise from it."

THE EFFECTS OF COFFEE ON SLEEP

(Stanley, L. L. and Tescher, G. L., *San Quentin, in California and Western Medicine*, May, 1931)

It was hoped to secure data as to the normal changes of position which an individual made during his sleeping period and to find out what difference the drinking of a cup of coffee before retiring would show from the normal or average soundness and movements of sleep. The head of the bed was suspended on heavy rubber bands so that the least movement would shake the bed either up and down or sideways. Any movement of the bed was transmitted by air pressure to a recording apparatus.

Seven men were selected for the tests. They were intelligent and co-operative. The coffee was of a standard brand and was made by tricolating four tablespoonfuls with boiling water for seven cups. The average of all hourly movements of all seven men is shown. From these figures it is seen that in two series the average of movements per hour of seven men normally was 10.42. With hot water on retiring, it was 8.43. With a cup of coffee on retiring, it was 8.07.

Clinical Comment

A Column Conducted By
L. G. GAGE, M.D., Charlotte, N. C.

A man 40 years old complains of headache in the right occipital region from which he has suffered for three years. It has rarely been absent for more than three or four days at a time during that period. It is always worse when he first gets up in the morning and frequently passes off after stirring around. In the mornings there is some pain produced when the head is rotated or the neck flexed or extended. The headache radiates from the right occiput to the top of the head. X-ray examination of the neck shows an inflammatory condition of the tendons and ligaments around the base of the skull as evidenced by calcification.

This complaint would be more definitely defined if it were called a pain in the head, but the patient calls it a headache, considers it a headache and until the location and character of the pain is dissected it would pass as a headache.

Such headaches are not at all uncommon and are produced by an inflammation of the joints of the cervical spine; the pain being referred along the occipital nerves which arise from the cervical cord, principally the second segment.

This condition is quite frequently associated with arterial hypertension and there is always a question as to whether the occipital headaches occurring early in the morning in this class of patients are not due to cervical arthritis rather than to the hypertension. It is difficult to see how arterial hypertension would cause such a pain unless the seat of the pain is in the occipital artery itself. This type of headache occurs often enough, in the absence of hypertension and accompanied by a demonstrable cervical arthritis, to establish its identity, and I believe that this is what was formerly referred to as indurative headache as there is usually some spasm of the nuchal muscles accompanying the pain.

The famous doctor, visiting a patient in the psychopathic hospital, tried to telephone his office before leaving the institution. Getting poorer telephone service than usual, he became roiled and queried the operator: "Say, young woman, don't you know who I am?"

"No," was the reply, "but I know where you are."

WHAT AN EDITOR LIKES TO GET IN A MANUSCRIPT

(From Editorial, Archives Dermatology and Syphilology, May, 1931)

One of the things that makes an editor love an author is a paper that indicates that he has taken the trouble to plan and develop it in logical sequence, and that he knows that good manners in writing require attention to spelling, grammar and punctuation. Editors are apt to feel that it is not their place to labor over the corrections that an author should make for himself. Editors are likely to overlook the nugget of gold in the author's package if the package is one in which only a witch would expect gold and only a hero would take the trouble to find it.

Double spacing and wide margins appeal to the editor's eye; they give him the space to make comments and corrections which indicate his editorial competency. The charm of a Wordsworth sonnet would be overlooked by an editor if the manuscript was single spaced and full of corrections in longhand—certainly if in poor longhand. It is well to start with a clean manuscript, because it will be careless looking enough after the editor has covered it with pencil marks.

Do not send more illustrations and tables than you feel are necessary. Do not repeat in the tables what is in the text. Put the author's name on illustrations and tables; otherwise, even if they do not get lost, they are apt to cause a good deal of trouble. If you send more illustrations or tables than your conscience justifies, don't ask the editor to pick out the ones to be published. That usually means revising the manuscript, and it is not the editor's job anyway. Put the legends for your illustrations at the end of the paper.

Papers accumulate far ahead, particularly just after annual meetings, so that delay in publication is inevitable. The editor, as a rule, is not playing favorites. In this connection, remember that all of us are inclined to overestimate the importance of our particular baby.

A stamped envelop for return of the manuscript in case it is not accepted indicates a sort of modesty that predisposes the editor in favor of the author. The letter of transmission signed by the author is appealing; if it is signed by the secretary or has that old evidence of excessive value of the busy man's time, "Signed but not read by the writer," the editor is likely to have the feeling that if he must take the time to wade through the thing the author might at least have taken the time to read his letter and to sign it; it is no treat to the editor, either.

PROSTATIC DISEASE FROM THE VIEWPOINT OF THE INTERNIST

(Wiseman, J. R., Syracuse, N. Y., New York State Journal of Medicine, May 15th, 1931)

The routine examination of a male is incomplete unless it includes an investigation of the prostate gland by finger and microscope. *Chronic prostatitis is one of the commonest conditions present in adult males.*

Southern Medicine and Surgery

OFFICIAL ORGAN OF
TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA
MEDICAL SOCIETY OF THE STATE OF
NORTH CAROLINA
JAMES M. NORTINGTON, M.D., *Editor*

Department Editors

HUMAN BEHAVIOR	
JAMES K. HALL, M.D.	Richmond, Va.
PEDIATRICS	
CHILDREN'S CLINIC GROUP	Black Mountain, N. C.
DENTISTRY	
W. M. ROBEY, D.D.S.	Charlotte, N. C.
EYE, EAR, NOSE AND THROAT	
EYE, EAR AND THROAT HOSPITAL GROUP	Charlotte, N. C.
LABORATORIES	
THE BARRET LABORATORIES	Charlotte, N. C.
ORTHOPEDIC SURGERY	
O. L. MILLER, M.D.	Gastonia, N. C.
UROLOGY	
McKAY & McKAY	Charlotte, N. C.
RADIOLOGY	
J. D. MacRAE, JR., M.D.	Asheville, N. C.
DERMATOLOGY	
JOSEPH A. ELLIOTT, M.D.	Charlotte, N. C.
INTERNAL MEDICINE	
PAUL H. RINGER, M.D.	Asheville, N. C.
SURGERY	
GEO. H. BUNCH, M.D.	Columbia, S. C.
THERAPEUTICS	
FREDERICK R. TAYLOR, M.D.	High Point, N. C.
OBSTETRICS	
HENRY J. LANGSTON, M.D.	Danville, Va.
GYNECOLOGY	
CHAS. R. ROBINS, M.D.	Richmond, Va.
NEUROLOGY	
OLIN B. CHAMBERLAIN, M.D.	Charleston, S. C.
HISTORIC MEDICINE	
VARIOUS AUTHORS	
PUBLIC HEALTH	
JAMES ADAMS HAYNE, M.D.	Columbia, S. C.

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

Recognition of facts and honest deductions are not natural to the human mind. The primitive instincts are for emotion and loose imaginings. The danger to the scientific spirit to the advance of medicine, and to the integrity of civilization does not come from the masses of unthinking people. This danger comes from intelligent people who play a part in shaping civilization but who have not been educated to think rationally; it comes from sentimental and idle people in whom the primitive instinct escapes from repression and rises to prevent thought.—Howard W. Haggard, M.D., Yale University, via Wisconsin Medical Journal, April.

A NEW LIGHT ON THE AIMS OF THE COMMITTEE ON THE COSTS OF MEDICAL CARE

From the very inception of this Committee, this journal has questioned the wisdom of the

movement and feared the outcome. No reason has yet come to the surface why the costs of medical care should be singled out from the multiplied economic woes which afflict our people. We still think this singling out was and is a tacit admission that doctors have not shown proper consideration for their patients and have not applied humaneness and intelligence in reasonably meeting the need of the people for health care; and we emphatically deny that this is true. On the contrary, we again proclaim that competent health care is more generally and readily available today to the whole people of the U. S. than is any other necessity or comfort of life. It reminds of a happening of interne days, when a broken ankle was diagnosed and cleverly reduced and a broken back overlooked.

However, our fears are considerably allayed as to the trend of thought of this Committee, what recommendations it is likely to make and what solutions it may undertake. A member of the Committee has published a comprehensive, understanding article¹ which is instructive and reassuring.

The Committee recognizes that too much unnecessary charity is being done by doctors and by hospitals, that often expenses far beyond those necessary for comfort are heedlessly incurred by those who can not or will not pay, that specialists are often consulted entirely unnecessarily and even wastefully, "because of the failure of the specialist to know about intimate relations in the home"; and "this is often further aggravated by one specialist referring the patient to another specialist rather than to the general medical adviser of that individual."

Frequently has this journal urged that family doctors should do much of the work that they now refer and that specialists should do more to encourage patients to rely on their family doctors and to encourage the doctors to do all but the exceptionally difficult work for their patients. This article is in close agreement:

"Unfortunately often the family physician feels that he is not able to carry out the diagnostic or therapeutic procedures so well as the specialist, when in fact he can do it just as well. This feeling has

1. What the Committee on the Costs of Medical Care is Trying to Do, Channing Frothingham, M.D., *New England Journal of Medicine*, May 14th, 1931.

developed among the more modest and conscientious practitioners because of the exaggerated reports that gain circulation in regard to the ability of this or that specialist. Much expense is created by the unnecessary or unintelligent use of specialists."

Unnecessary expenditures for medicines, including the prescribing of very expensive preparations of no proven value, are regarded as making a factor of importance; likewise the employment of cultists. Expenses of travel to distant shrines are regarded as frequently, if not usually, entirely unnecessary, competent treatment being available at home.

The great unnecessary expense of preventable disease is counted in. This responsibility is largely that of the family doctor. If every family doctor in the Country diligently applied all the knowledge he has or can readily procure of preventable disease, it would promptly be reduced at least 50 per cent.

Admitting that a well-trained nurse is better fitted for the care of a difficult medical or surgical problem, it is regarded as obvious that frequently a woman not so well trained fills the need in a home in which there is disease. Lack of such women in a community makes necessary more expensive care than can be afforded, often more expensive than can be paid for.

Hospitals for special diseases increase unnecessary expenses by necessitating duplication and reduplication of overhead expenses and costs of special apparatuses for diagnosis and treatment.

The Committee's judgment is that some plan should be worked out by which a person who comes to a charitable institution because he is unable to pay the full expenses of private care, but can contribute something, "that person shall contribute something in the nature of professional fees as well as for his board and lodging." Some check is recognized to be necessary on the resources of persons, preliminary to treatment or diagnosis so that some money will be left for the physician.

It has been found that the public and especially our legislators need to be informed as to proper standards for doctors in general and specialists.

"It is the failure of patients to have one physician to whom they turn for all their problems and have him either handle the problems himself or guide them to others that adds to the unnecessary expense asso-

ciated with the handling of sickness. How often has the physician in general practice seen his patients incur, by going to specialists direct, tremendous expense and receive poor advice about some set of symptoms often leading to unnecessary operations, when an intimate knowledge of the home conditions unknown to the specialists would show that the diagnosis rested upon some social problem rather than upon any organic disease. In addition the family physician should be stimulated to assume more and more responsibility and to call upon specialists for diagnosis or treatment only when the indications for their need are clear."

Elimination from the public press of advertisements of preparations of no proven value is in order; also the needless prescribing of medicines in trivial and self-limiting diseases. Due care should be taken to prescribe inexpensive remedies when they will do as well.

Well is it said that laymen will assume that anyone whom the State licenses to care for disease is capable in the management of disease (See Editorial, "This Journal's Nominee for the Presidency," May issue), and that cultists add much to the unnecessary costs of illness, one special item being their obstruction to sensible measures of preventive medicine.

In many instances it is the part of wisdom for doctors to go in together in the purchase of certain expensive equipment. In certain cases this will be supplied by the community. These measures, along with discouragement of the idea that it is necessary to go to some distant place to get proper medical care will materially reduce the cost of this care, without sacrificing quality.

Provision for the production of nurses of different grades is a problem for different communities to meet, each for itself. The writer of the article sees no reason why different grades of nurses may not be turned out just as universities confer different degrees at the completion of different courses of study. In Boston there is already the Household Nursing Association for trained attendants.

The tremendous overhead expense of many individual hospitals "could be eliminated by having larger hospitals to take care of all types of medical [and surgical] problems." Psychopathic patients, also, should be taken care of in such general hospitals.

Finally, there is a paragraph which carries comfort indeed:

"The question may well be raised: why is not the solution of the problem to have the Government take over the care of the sick as well as the organization for the prevention of disease and have the expenses including the salaries of its physicians met by taxation? The Committee on the Costs of Medical Care feels very strongly that this solution of the problem would be exceedingly unfortunate, and primarily so for the very fundamental reason that in so doing the personal relation between the physician and patient is bound to be destroyed."

Much of what has come to the desk of *Southern Medicine & Surgery* concerning the activities of the Committee on the Costs of Medical Care seemed to us to tend strongly toward measures utterly destructive of the personal relation between doctor and patient. This authoritative statement that the Committee feels very strongly that this relation must not be interfered with is thrice welcome. Indeed, the whole article is a remarkably penetrating analysis of the problem of medical care, showing acute discernment as to what are the remediable ills of medical practice, and ready resourcefulness in the recommendation of appropriate remedies.

This journal now believes that, conducted along the lines here laid down, good will come out of the labors of this Committee out of all proportion to the harm done by choosing such a name as to make a thousand occasions for lay writers to belabor Medicine and her doctors unjustly and injuriously.

Medicine is *not trying to catch up* with the other professions in the rendering to the people of competent service at a reasonable rate: *She is rather planning wisely how to get farther on ahead.*

THE WOUNDING AND DEATH OF STONEWALL JACKSON

The leading article of the *Bulletin of the McGuire Clinic and St. Luke's Hospital* for April describes an event of the greatest interest, not only to doctors, but to all the people of the South. It is an "Account of the Wounding and Death of Stonewall Jackson," from the pen of the gifted Dr. Hunter McGuire, who was Medical Director of Jackson's Corps, written while the events were still

fresh in his mind and published (and reprinted from) the *Richmond Medical Journal*, of May, 1866.

From this rare writing may be learned: how died the man, who, had he lived, might have supplied the ingredient requisite for the establishment of Southern Independence; that, had not a litter bearer been struck down, in all probability the General would have recovered from his wounds; that this noble life was snuffed out, not by the bullets of his troops, but by pneumonia induced by the falling of the litter on which he was being borne, when one of the bearers was killed.

Jackson fired on through error of his own men,—soldiers of the rarest individual capacity and the greatest experience!—then his escape from this peril cut off by the slaying of a litter bearer; the never-explained tardiness of a corps commander at Gettysburg; the Swede, Ericsson's, "cheese-box-on-a-raft" arriving in the nick of time to prevent the destruction of the Federal fleet in Hampton Roads and the raising of the blockade by the *Virginia*; the failure of a shell from the *Alabama* to explode when accurately shot into the keel of the *Kearsage*!

Well, the strength of our fathers lacked only a little bit of measuring up to their zeal and the justice of their cause. With just a smidgen of luck they'd have won, established the rights of men to rule themselves—and saved the Land of Cotton from the rank injustices of the past 60 years and more, and from the mess we are in now.

EMPLOYING HOME DOCTORS AN IMPORTANT PART OF LIVE-AT-HOME PLAN

....., N. C., May 23.—(AP.)
....., president and
general manager of the
has gone to....., for an abdominal operation.

Several years ago we knew of a high official in an organization devoted to cotton manufacturing going to Philadelphia to have a tooth pulled. Otherwise he was an enthusiastic promoter of the "bigger-and-better" town, State and section.

From the superscription will be seen an every-day illustration of how one-sided sentiment frequently is. The official is a promoter of high order. "C-a-r-o-l-i-n-a" rolls under

his tongue as a sweet morsel.

There are plenty of surgeons in North Carolina amply competent to do his abdominal surgery. This journal hopes that when he appeals to doctors—and doctors support his organization better than any other group—to “support this great N-o-r-t-h C-a-r-o-l-i-n-a enterprise,” they’ll tell him to go and roll his hoop.

Incidentally, see leading editorial, this issue, as to one of the means of reducing the Costs of Medical Care.

FOUNDATIONS AND THEIR TRENDS

(Abstract of Report of S. J. KOPETZKY, M.D., New York, to Medical Society of the County of New York, abstracted from *Journal Tennessee State Medical Association*, April, 1931.)

The struggle of the individual against engulfment by the mass is almost as old as the story of mankind. On the one hand, we have seen the desire of the individual to strengthen and perpetuate his individuality, to think independently and, within the limits of social order, to act freely without interference or coercion. On the other side have been those who seek to standardize society, to organize a strong central authority and reduce the individual to the impotent role of a marionette. The second group has given society administrators and organizers. Genius springs only from the first.

Unfortunately, instead of serving merely as a social instrument, standardization has become an end in itself. In every field there is evident a tendency to suppress personal initiative and build up a machine in which the individual is a subservient and indistinguishable cog.

Up to the present century, medicine had escaped the subjugation of the individual to the herd to a remarkable extent. Throughout the centuries, it was individual penetration and resourcefulness that kept the art of medicine alive, and gradually penetrated the secrets of health and disease. Even after the establishment of medicine upon its present basis at the end of the last century and the early part of the present one, the remarkable strides made have been due, not to carefully controlled bureaucratic activity, but to the genius and vision of a few gigantic minds.

In the course of the present century, how-

ever, a perceptible drift has set in away from individualism in medicine. The standardization of medical education, an eminently desirable and necessary step in itself, has proved the forerunner of an attempt to standardize medical practice—an eminently undesirable and unnecessary sequel. The large, highly centralized organizations that characterize modern industry are being parodied in modern medicine. Whereas a doctor and a patient were formerly the two essentials in the treatment of disease, today vast, impersonal organizations have been built up which stand between patient and doctor and destroy the personal contact and knowledge that are essential to successful healing.

One is the rapid and uncontrolled growth of specialism, with its seizure of popular imagination. A public which had deserted general medicine was easily enticed by corporate groups which advertised all kinds of special examinations and laboratory tests for a flat fee. What does it mean to the average layman that not a single scientific discovery has emanated from the Life Extension Institute, for example, or other similar adventures in medical mass production?

Another element has been the steady growth of governmental health services, often notoriously indiscriminating in selecting the subjects of their benefactions, with the result that the public is taxed for medical service to many who can well afford to pay. The small number of physicians in the public health service who have made notable original contributions to healing is another gauge of the deadening influence of bureaucracy in medicine.

Still another factor in the gradual suppression of individualism in medical practice is the increasing control which the large philanthropic foundations exercise over healing. While some of them have made notable contributions to medical education and scientific research, in their experiments with the actual distribution of medical service their activity is one of the serious menaces confronting the private practice of medicine today.

In examining the aims of the different foundations, one is immediately struck by the breadth and vagueness of their avowed purposes. The goal of one is “the well-being of mankind,” of another “to improve the physi-

cal, mental and moral conditions" of the race.

Indubitably the physician is the central figure of any enduring health program, yet instead of figuring as the central figure in the health scheme, the doctor is subordinated to administrative considerations. His attitude toward healing is ignored; his interests disregarded.

It is natural that the foundations, whose influence rests on their financial strength, should consider disease a bad economic habit which can be corrected by spending large sums of money. Foundations, with their limitless resources, could accomplish more for health by fostering hygienic and healthful living conditions than by conducting expensive and inconclusive health demonstrations in districts where the very manner of life is an affront to health principles.

The Twentieth Century Fund has recently been toying with the idea of a "medical guild" to treat the middle class at less than the current rates. It points to the Mayo Clinic as an example of the economic advantages of group practice. The fallacy of its argument is obvious. The Mayo Clinic may be known for the quality of its service; it has never been famed for its cheapness. Even the Cornell Pay Clinic, which has been partially financed by a foundation, has never been able to prove that it gives a better grade of service than it patrons could receive in private practice at a comparable cost.

No doctor who must depend on his professional earnings for a livelihood, and who must defray his office, personal and civic expenses from those earnings, can compete with an organization that is partly underwritten by the wealth of a foundation and that advertises to the public, at a cut rate, the service on which his economic existence hangs.

Not all foundations are guilty of this ill-considered indifference to the economic stability of medical practice. It is an avowed policy of the Commonwealth Fund not to interfere with private practice but to emphasize educational service and professional training. The Carnegie and Rockefeller Foundations do an inestimable service to the medical profession as well as the public by their contributions to medical education and scientific research.

The one constant essential in public health

work is the physician; and it can not be stressed too strongly that he can not function properly if he is subjected to economic injury.

If the doctor is indeed vitally concerned with the preservation of his right to earn his livelihood by the practice of medicine, it is no less true that an increasingly large number of social workers, statisticians, field workers, and directors derive their living from the activities of the foundations. Surely there is no reason to credit them with a more inherent fairness or altruism than a profession whose annual gifts to society, in free service, totals more than the entire donations of all the medical and quasi-medical foundations during the last 20 years.

Would not the foundations make a vastly practical contribution to medical care if they exerted their considerable influence to reduce unnecessary overhead and employed their resources to lessen the costs of hospitalization to the middle class? There are a number of ways in which this could be done. Funds could be established in Grade "A" institutions to assume part of the hospital, nursing and laboratory charges to patients within specified income groups; or increased contributions to the hospital as a whole could be employed to reduce fees to the entire public.

Much of the friction which has arisen heretofore has grown out of the vagueness of the foundations' expressed aims. Confronted with the task of expending huge sums of money for the "good of mankind," the executives must first determine what the good of mankind is. Unfortunately, there is no one market for health. Ill health may grow out of economic wrongs or spring from faulty hygiene and lack of sanitation.

What more logical group is there in the sphere of health to aid in the selection of such a purpose, in the development of such a plan, than the medical profession? Continuous, intimate contact with sickness has taught it much of the needs of public health. If it has seen too many panaceas and too many administrative theories have their brief day of glory for it to accept any untried remedy, whether social or medical, on faith, it has also known how to make effective use of new things once their worth has been proved.

The foundations must learn that their function is to provide means for the advancement of thought, not to control thought. They

should encourage research, but not state what the nature of that research shall be. In the field of public health, they should carry out projects conceived in conjunction with public health officers and the medical profession. They should provide facilities for the improved practice of medicine; but they must not dictate what the conditions of medical practice shall be. They should remember that organization is not an end in itself, but a tool to enable the individual to function at the maximum efficiency and to the fullest development of his native powers.

THE EXALTATION OF THE GRAVE-DIGGER

The very same paper—date May 15th, 1931—in which a staring headline tells of "Conference to Seek Ways to Cut Family Doctors Bills," carries a statement of the cost of a murder trial. In this case it was ordered by the legal authorities that a post-mortem examination be made, and, after the body had been interred for a number of days, a second examination was ordered, which, of course, necessitated disinterment.

There was no question raised as to the skill with which the first examination was conducted.

Some of the items of the bill attract interest. Nothing in the paper intimates but that the items of charge are satisfactory. The doctor who performed the first post-mortem examination receives \$50.00, the one performing the second \$45.00. The amount paid for disinterment is \$50.00!

Certainly the wielder of the spade had the pleasantest of the three jobs, and the shortest. Is the mental equipment of a grave-digger regarded as superior to that of a doctor and worthy of a higher per hour wage?

Both these doctors are family doctors. Here is something worthy the attention of the "Conference" which is "To Seek Ways to Cut Family Doctors' Bills."

We suggest as a motto—Down with Doctors; Up with Grave-diggers!

THE UNIVERSITY OF CALIFORNIA MEDICAL SCHOOL has opened a course in aviation medicine in which there are now 60 students. The purpose of the course is to meet the need for medical men trained in the work of examining pilots for civilian aviation and to render medical aid in time of war.

STATE BOARD OF HEALTH AND STATE COLLEGE WORKING TOGETHER TO ERADICATE PELLAGRA

Our Governor's wise "Live-at-Home" program is being greatly advanced by the State Board of Health working in conjunction with the school which the State started and supports primarily to teach better farming, to banish from the State a disease due largely to food deficiencies. This plan seems perfectly conceived: the State Board of Health furnishing instruction as to what should be done, and the Farm School instructing as to how to do it.

These workers are urging each family to keep a cow, some pigs, a flock of at least 50 hens and cultivate a garden. This is part of the "Live-at-Home" campaign and the family, which carries out this simple program, need have no fear of pellagra.

Every can of vegetables put up, every pound of fruit dried, every jar of preserves conserved is just one more blow to put pellagra out of business and all citizens of the State are urged to boost this great campaign to 'Preserve Your Food and Live-at-Home This Winter.'

We congratulate Dr. Taylor, Dean Schaub and Mrs. McKimmon, and bespeak for this enterprise the active, enthusiastic coöperation of every doctor in the State.

If anyone doubts the trend toward state medicine he should read critically the pamphlets sent out by the Committee on the Cost of Medical Care, and the conclusions drawn by the writers.

Some public health officers are openly favoring state medicine and in all probability most of them secretly cherish the thought that eventually state medicine will dominate and health officers will be the ring-masters over medical men who will perform like trained seals, be satisfied with the compensation awarded the performer, and appear satisfied with the loss of freedom.—EDITORIAL NOTE, *Jour. Indiana State Med. Assn.*, April.

"IN MEMORIAM, DR. JOHN C. MONTGOMERY" in the May issue is from the gifted pen of Dr. George W. Pressly of Charlotte, a committee of one appointed for this purpose by the Mecklenburg County Medical Society. His name was inadvertently left off.

DEPARTMENTS

ORTHOPEDIC SURGERY

*For this issue, A. R. SHANDS, JR., M.D.
Duke University, Durham, N. C.*

WILLIAM STEVENSON BAER (1872-1931)

Dr. William Stevenson Baer, who died in Baltimore on April 7th, 1931, was born in that city on November 25th, 1872. He was the son of a Methodist minister. In 1894 he took a bachelor of arts degree from Johns Hopkins University, and four years later was graduated in medicine. He was a house officer in the Johns Hopkins Hospital from 1898 to 1900. In this year he began his career in orthopedic surgery. From 1900 until his death he was the one and only head of this department in the Johns Hopkins Hospital and Medical School. In 1927 he was made a full clinical professor of orthopedic surgery. In 1924 the highest honor came to him in orthopedics, namely, the presidency of the American Orthopedic Association.

With the passing of this noted figure in surgery, the South and the whole country have suffered a loss. The cripples who came to him for advice and treatment were from all walks of life. The children of workmen were his patients and friends, along with generals, senators and presidents. The children were fascinated with his funny stories associated with a wiggling of the ears and a wrinkling of the forehead and scalp. His genuine sense of humor and pleasing personality delighted the older ones. His characteristic inspiratory grin and even laugh in conversation always was perplexing to the newcomer and added to his charm.

His greatest quality in maintaining professional leadership was vision. He had an almost uncanny insight into the future. One of his greatest assets as a clinician was his diagnostic ability. At times he would make a diagnosis of an obscure condition which might seem the most unlikely disease of all possibilities at the time, only to have his opinion later confirmed. This quality gained him the deepest respect of every person knowing him or working with him. His younger associates all adored him and he was always "The Chief" to them. He was the most loyal

supporter of everyone whom he had trained.

In orthopedic surgery he was probably best known for his hip-joint surgery. His work on arthroplasties, or making stiff joints mobile, gave him an international reputation many years ago which he maintained to his death. The use of the "Baer membrane," the chromicized submucous layer of the pig's bladder, was at one time rather generally tried and used in arthroplasties. He was always a strong advocate of resection and reconstruction of the head of the femur in osteoarthritis of the hip. During the last few years of his life he was enthusiastic over the use of the grubs of the bluebottle flies—maggots—in the treatment of certain types of chronic osteomyelitis. The results he obtained with these cases were certainly most amazing at times. He was always interested in the large problem of arthritis, and was a firm advocate of the use of autogenous vaccines made from the gland cultures in these cases. In the early years of his career he showed that a great many of the spurs on the under surface of the os calcis were gonorrheal in origin, by obtaining gonococci in the pure culture from the exostoses excised at this point. He was keenly interested in manipulative surgery, and always felt that the bonesetters could teach the orthopedic surgeons a great deal. A manipulation of the sacroiliac joint in strains or disease of this part was often strongly advocated.

The Children's Hospital School in Baltimore is a memorial to his life's work. He started this in 1912 in a small way and built it up to the position of being one of the very finest and best equipped hospitals for the care of crippled children in the country. At the time of his death there was an addition in course of construction which is to house thoroughly equipped physiotherapy and hydrotherapy departments. He was from the beginning very firm in the opinion that the hospitalization and education of these cripples should go hand in hand. He was the organizer and president of the Maryland League for Crippled Children, which has done untold good in the rural and outlying districts of Maryland in helping in the care of the

crippled children. During the World War he was the Chief Orthopedic Consultant of the A. E. F. and became a very close friend of General Pershing.

His tireless devotion to work was the immediate cause of the undermining of his health. He gave his life to orthopedic surgery and died in harness. There is no finer or more beautiful way to meet the end.

HISTORIC MEDICINE

For this issue, B. M. RANDOLPH, M.D.
Charlottesville, Va.

ANAPHYLACTOID SHOCK—HISTORICAL NOTE

Physicians of today, when they hear the name of Majendie, react with the memory association of a certain (or uncertain) meningeal foramen, which caused them concern in their early efforts to master the anatomy of the human brain. Contemporaries of Majendie esteemed him more for his clinical efforts, and for no one thing more than for his treatment of hydrophobia by the intravenous injection of warm water.

The idea of the water treatment of course had its origin in the doctrine of contraries (*enantion*), handed down from Galen. The fact that patients suffering from rabies, in addition to their motor excitement, were unable to swallow liquids, gave to the disease the name hydrophobia (*hudor* water, *phobeo* fear). By the Galenical doctrine of therapeutics every invading disease had its specific opposite or contrary, and it was the object of the therapist to ascertain in each malady what this opposite was, and administer it in the way that seemed most appropriate. The spitting out of water placed in the mouth of patients suffering from rabies, was regarded as a manifestation of a defense reaction on the part of the disease principle that had taken possession of the patient, to resist the approach of the opposite that would neutralize its effects.

Majendie (*Lancet*, 1823) conceived the idea of bringing the *enantion* of hydrophobia into contact with the disease principle by injecting water into the vein. After experimenting on a rabid dog, and being encouraged by the result, he undertook to treat a patient suffering with rabies by this method. After a very profuse phlebotomy, he injected into the vein of the arm 20 ounces of water of a

temperature of 30° Reaumur (99.5° F.) The treatment was followed by a complete cessation of the irritative phenomena of rabies, and these did not recur during the patient's lifetime. He died eight days later, and the autopsy showed disseminated purulent infection, involving joints, peritoneum, and lungs. Majendie had no difficulty in asserting, however, that the patient died from "natural causes," and that the hydrophobia had been cured by the treatment.

The treatment immediately obtained a vogue, and reports of other cases of rabies treated by Majendie's method became quite frequent for the few years immediately following his publication. The case of Gaspard (*Lancet*, 1824) is a case in point. In addition to the light it sheds on the Majendie treatment of rabies, it furnishes what is probably the first recorded instance of anaphylactic shock produced by parenteral injection of a foreign substance. The following quotation from Gaspard's report bears on the immediate effects of his effort to treat a case of rabies by the intravenous injection of warm water. There is no allusion to the distillation of the water used. The time of onset, the duration, and the clinical features of the effects of Gaspard's injection seem to leave no doubt that they were of an anaphylactoid nature.

"Having laid bare the cephalic vein of the right arm, I injected at first very slowly about four ounces of warm water, asking the patient every moment if he felt any extraordinary sensations, such as palpitation of the heart, difficulty of breathing, fainting, etc.; he assured me constantly that he felt nothing unusual; it was not till the injection was concluded that he spoke to me of certain prickings, or a kind of tickling sensation, throughout the interior of the stomach, although the pulse had not, in the meantime, undergone any change in its frequency or fullness. Uneasy, however, as to the consequences of this new symptom, I suspended the experiment, and waited to see if any serious effect should manifest itself; but at the end of a quarter of an hour, no change having taken place, I injected again, with the same slowness, and the same precaution, four ounces more of warm water. The uneasiness, or rather the tickling sensation of the lungs, did not increase, but continued the same; the motion of the heart was not augmented; the pulse

only became a little fuller, but the patient's thirst did not at all diminish, nor his nervous and hydrophobic symptoms. Fearing, nevertheless, that the lungs would be gorged, I suspended the experiment, to observe the consequences of those pulmonary prickings, which did not cease; and I had soon reason to be glad of having done so, for, at the end of another quarter of an hour, the patient complained of vertigo, and a desire to vomit; he coughed three or four times without expectoration; and, at length, 45 minutes after the first injection, he was seized with a violent shivering, and trembling of the limbs, attended with a very small and frequent pulse, paleness and coldness of the body, exactly as in a paroxysm of tertian or quartan ague. This shivering lasted more than half an hour, was followed, as usual, by a dry heat, with fullness of the pulse, and, at last, by copious sweating; the three periods of this attack lasted about an hour and a half. The symptoms of hydrophobia continued without any alteration; the same dread of water, the same thirst, the same excess of sensibility, the same convulsive paroxysms."

(*Note*.—Gaspard refers to an experiment of Regnandot made in 1770, in which aqueous solutions or suspensions of senna, guaiac, isinglass and gum arabic were injected into the vein of the arm, and were followed in a short time by rigor, fever and sweating).

The nature of the clinical phenomenon known as anaphylaxis is not sufficiently understood for us to say precisely what is, or what is not included under the term. Certainly, if such an occurrence as that here described by Gaspard should today follow an intravenous injection, we should call it an anaphylactoid reaction, or protein intoxication. Whether the offending protein was in the injected water, or whether it was formed by laking of the patient's own blood, we cannot undertake to say.

It is needless to say that Dr. Gaspard did not understand the physiologic mechanism of the phenomenon he described.

UROLOGY

*For this issue, EARL FLOYD, M.D., and
J. L. PITTMAN, M.D., Atlanta*

SPINOCAIN IN UROLOGY

In the past few years spinocain has gained

increasing popularity in surgery, particularly in urological surgery.

At first it was used in prostatic surgery and operations on the bladder with excellent results. It is considered an ideal anesthetic for operations of this type. These patients are usually old men suffering from cardio-vascular-renal disease and are poor risks for any kind of inhalation anesthesia. The kidney function is impaired in most cases and it has been shown that the inhalation of ether has some irritating effect on even normal kidneys, whereas spinocain has no deleterious action on the kidneys, sparing them this extra burden. Another desirable feature is that these patients can begin taking fluids by mouth as soon as they return from the operating room which is so important. As to the lowering of the blood-pressure, this is an advantage rather than disadvantage, as the majority of these patients with prostatic enlargement have a high blood-pressure. It may also be used in cases with normal or even low blood-pressure and the results are excellent.

Although its use has been very gratifying in operations on the prostate and bladder it is now gaining prominence in operations on the upper genito-urinary tract.

The removal of stones from the ureter is possible under spinal anesthesia without any pain to the patient whatsoever, and the task is made infinitely easier and simpler for the operator. This is due to the very thorough and complete relaxation that one rarely ever sees from any other type of anesthetic.

Operations upon the kidney, or even nephrectomies are performed with greater ease under spinal anesthesia than under anesthesia of any other type. The relaxation is so complete that otherwise difficult nephrectomies are rendered comparatively easy. In cases of renal tuberculosis the type of anesthesia one selects is very important, for these patients usually have a pulmonary involvement which makes general anesthesia contraindicated; therefore, again spinal anesthesia is ideal: It spares any irritation to the remaining kidney.

It is a noticeable fact that following operations upon the kidney with general anesthesia, paralytic ileus is a not infrequent complication; whereas with spinal anesthesia one encounters little, if any, of this distressing condition.

Spinocain is being used in all types of oper-

ations on the genito-urinary tract and is beneficial and preferable as a rule to all other anesthetics. It is safe, relaxation is good, and there are no inhibition to the function of other organs like that of the intestine, no pleural complications and no disturbance of kidney function.

THERAPEUTICS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

STEAM INHALATIONS, OILY SPRAYS, WATERY SPRAYS AND LOCAL APPLICATIONS AS USED IN CONDITIONS OF THE UPPER RESPIRATORY TRACT

In many cases of irritation of the larynx, trachea and bronchi, inhalations of medicated steam give considerable relief. A large number of substances are used in such a way. Many preparations so used contain some form of eucalyptus. We do not employ this drug because of the large number of patients to whom it proves distinctly irritating. Menthol is largely used, and for most persons is very pleasing. Benzoin, as the simple or the compound tincture is another valuable drug. Paregoric is sometimes used to give a certain flavor—it is useless to expect narcotic effects from it used in this way. Creosote is often added to these steam mixtures and may occasionally be useful. A formula we often use is:

Menthol 15 grains
Paregoric 3 drams

Compound tincture of benzoin to make 3 ounces.
M. and label—A teaspoonful in hot water and inhale steam as directed.

The inhalation may be prepared in a number of ways. The simplest way is fill a good-sized pitcher about half full of very hot water, add the medicine, wrap a towel about the mouth of the pitcher, and using this towel as a sort of mask to surround the face, lean over and with mouth open breathe in the steam in moderately long breaths. If the nose is stopped up, an effort may also be made to breathe some of the steam through the nose. The process is continued as long as the water gives off steam, and repeated every three or four hours or oftener if the patient desires it.

In small children with spasmodic croup these inhalations are often especially helpful,

but cannot be given by the method described. Here some form of croup kettle is desirable. A tent is made with a sheet over the patient, and steam allowed to enter the tent from the kettle. The older types of croup kettles have an alcohol lamp attached, to keep the kettle steaming. Constant watchfulness is necessary to keep the lamp from going out or setting fire to the sheets if they hang closely enough to be liable to fall against the kettle. A new kettle has been devised using electricity as the source of heat. This heats the mixture in just a few seconds, unless the mixture is a poor conductor—if it is, a pinch of salt added to it will give astonishing results. Here the danger is that there is almost sure to be excessive boiling with squirting of boiling liquid out of the kettle's spout for a considerable distance unless someone sits by and constantly turns the current on and off as needed to regulate the boiling. The advantages of the kettle method are that the patient does not have to cooperate, and the inhalations are more readily continued over a long time. The advantages of the pitcher method are its simplicity, the fact that no one else has to administer it to the patient, and greater concentration of the medicated steam where it is needed.

Perhaps the most convenient method of all where it is available is to put the hot water and medicine in a large wide-mouthed bottle with a cork or rubber stopper containing holes in which glass tubes fit. The tubes are arranged as in a chemical wash bottle, only the patient sucks air through the bottle instead of blowing water out of it. It is easy with such an arrangement to sit upright and read or otherwise employ oneself while inhaling the steam. Such a method of course makes a bubbling sound in the bottle.

Oily sprays are sometimes useful also. A mineral oil base is ordinarily used, preferably a light oil rather than a heavy one. Such drugs as menthol, camphor, thymol, chloretone, ephedrine, etc., may be incorporated in it as indicated. Here again, we omit eucalyptus for the reasons given, though it is often used. The best results are obtained when a nebulizer giving a very fine cloud is used.

Watery sprays may be helpful in clearing out the nose, but we do not like them in the throat. When used for sore throat they may

spread the infection down into the larynx, we believe. A coarse oil spray has this objection, too. Watery preparations cannot be nebulized into a fine cloud as can the light oils.

So many preparations are used as local applications on swabs in the nose and throat that we cannot attempt to discuss them *in extenso*. Mercurochrome, argyrol, silvol, glycerite of tannic acid, etc., may often be used to advantage. Epinephrine or ephedrine in the nose may be helpful in temporarily relieving obstruction, but may also cause a secondary congestion—epinephrine especially.

Medicated lozenges are sometimes gratifying. The enormous sale of certain cough drops bears witness to this. Most of these are a harmless form of candy with horehound, menthol, etc., in them, and may relieve throat irritation a good deal. If more potent agents are desired, a few lozenges have been put on the market of late that are worth a trial in certain cases. We think especially of the lozenges of neutral acriflavine, the anesthesin-calcidin troches, and the "Thantis" lozenges. All seem to give some relief in sore throat, and at times the anesthetic effect of the anesthesin-calcidin troches is most welcome.

The remedies discussed are simple, most of them rather old-fashioned, and some seem to have gone largely out of use, but we consider them well worth while in adding greatly to the comfort of patients with upper respiratory infections, and anything harmless that gives relief in these most frequent of conditions that we are called on to treat, is not to be discarded lightly only to be replaced by a therapeutic nihilism. We cannot cure the common cold, as a rule, but we can do much to relieve it and its most frequent complications, and this relief promotes rest and general well-being, and gives the patient a better chance to overcome the disease promptly.

FALLACIES IN DIETING

We are coming more and more to rely on the guidance of our own appetites for food. However, many dietetic abuses based on ignorance persist. Quoting Holland:¹

Since ancient times physicians have felt called upon to regulate the diet of their pa-

tients and to formulate rules of "hygienic eating" for the community at large. It is not an exaggeration to state that a large part of this activity has proved not only worthless, but actually harmful, as much of it has been founded on false theories and ignorance. Unfortunately a spirit of commercialism has often prompted individual medical men to exploit this or that faddish diet. The layman has always been, and still is, confused regarding these matters, and his medical attendant is not always any better informed, although posing as an authority and guide. Ethically considered, this would all be regrettable, but more far-reaching in unfortunate results has been the constant stressing of unnecessary dietetic restrictions. Neurasthenia and kindred mental invalidism too often have a "diet" as an etiological factor, nor is such invalidism always the ultimate result. Death directly through starvation has resulted, or indirectly through the occurrence of constitutional disease made possible by a constitution weakened by insufficient nourishment.

In treating any disease, particularly the gastro-intestinal diseases, one is not justified in prescribing a diet which is not clearly indicated. The forbidding of one or another combination of foods, this or that article of diet, should be based on something more definite than somebody's theory of food chemistry in its relation to the digestive processes. In a general way we can accomplish a great deal by suggesting a proper balancing of foods; more of this element and less of that; or suggestions as to the character of food may be necessary, whether it be soft or rough, etc. But so far as possible, patients should be allowed freedom in choosing the articles of diet they are to partake of.

THERAPEUTIC ANTIMENINGOCOCCUS SERUMS

(Shwartzman, Gregory, New York, in *The Journal of Infectious Diseases*, April, 1931)

The potency of antimeningococcus therapeutic serums and certain experimental immune serums was measured by means of the phenomenon of local skin reactivity. It was found that the majority of the serums that are at present applied therapeutically are poor in neutralizing antibodies. A prolonged period of immunization with toxic filtrates and live cultures proved necessary for the development of potent serums.

A new plan for preparation of polyvalent therapeutic meningococcus serums is proposed in this paper.

1. HOLLAND, ARTHUR L.: Diseases of the Stomach and Small Intestine in Blumer's *Bedside Diagnosis*, Vol. I, pp. 783-4. W. B. Saunders Co., 1929.

SURGERY

GEO. H. BUNCH, M.D., *Editor*,

ANOMALIES OF THE LUMBAR SPINE AND SPINAL ANESTHESIA

Anatomists have long known that variation in the normal or average distribution of the vertebrae is not infrequent. In the cervical region the number, seven, is almost constant, although cervical ribs occur sufficiently often to be the inspiration for a considerable literature on their symptomatology and removal. In the thoracic region 13 vertebrae instead of 12 are occasionally found and very rarely the number may be reduced to 11. In the lumbar region there is a definite percentage of variation from the normal. Cunningham states that "Variation in number is usually due to the coccygeal vertebrae being reduced to three or increased to five or even six." Sir Arthur Keith (*Human Embryology*, 1921) says, the 25th vertebra in 95 per cent. of people forms the first sacral which in 1 per cent. is the 24th and in 3 per cent. the 26th. From this it appears that a sixth lumbar vertebra may be expected in three out of every 100 people examined.

Dr. Pitts, in a review of the last 300 routine cases for abdominal and urologic examinations made in the x-ray laboratory of the South Carolina Baptist Hospital, found six lumbar vertebrae in five cases and four in one. He also found one case with a pair of short ribs on the first lumbar vertebra. He checked the cervical and dorsal regions in these seven cases but found no abnormalities. From these studies we may expect developmental variation in the lumbar region in from 2 to 3 per cent. of otherwise normal people.

Heretofore anomalies in the lumbar spine provided function is good have only been of academic interest. However, since the days of diagnostic and therapeutic spinal tap and more particularly since the development of spinal anesthesia, variation from the average may be of great practical importance. The safety of spinal anesthesia depends upon freedom from cord injury. If spinal anesthesia is to endure there must be assurance that paralysis will not follow its use. The injection should be into the cauda and not into the cord. Although in the fetus the cord fills the entire canal it is gradually relatively short-

ened after birth until full development is reached, so that in most of us its lower end is at the level of the first lumbar vertebra and most of those writing on the subject advise making the tap for spinal anesthesia between the second and third lumbar vertebrae to be sure that the needle is below the cord.

But if there are anomalies in the vertebrae may there not also be variation in the development of the cord? Cunningham gives the limits of the caudal extension of the spinal medulla in the adult as "The midpoint of the last thoracic vertebra and the superior border of the third lumbar vertebra." He furthermore says that "In the female there would appear to be a tendency for the medulla to reach a slightly lower point in the canal than in the male."

Unfortunately the x-ray cannot assist us in determining cord variation. In the last 15 autopsies, at the South Carolina Hospital for the Insane, in which the spine was opened, in no case did Dr. Horger find the cord extending beyond the first lumbar vertebra.

From the facts given we think it obvious that spinal anesthesia should *not* be given at a level higher than the space between the third and fourth lumbar vertebrae. We have had in a series of about 1,800 spinal anesthetics one patient develop, on the second day after administration for gastro-enterostomy, motor and sensory paralysis of the lower extremities with incontinence of both bowel and rectum. After three months his physician reports him with normal function. We think there must have been hemorrhage into the cord from needle trauma. We believe that had the needle been inserted between the third and fourth lumbar vertebrae, instead of between the second and third, the complication could not have occurred.

It is also imperative that the anesthetist learn his landmarks so that the injection be not made at a higher level than he supposes.

CANCER AND THE LABORATORY

(McDonald, Ellice, and Hueper, W. C., Philadelphia, in *The Journal of Laboratory and Clinical Medicine*, April, 1931)

Histologic grading of tumors stimulates an intimate histologic investigation of neoplasm and gives some definite information to the clinician.

The histological grade of malignancy is not the only factor on which the prognosis of a tumor depends. Others are equally important.

INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*

INDICATIONS FOR THE USE OF INSULIN IN CONDITIONS OTHER THAN DIABETES MELLITUS

Since the advent of insulin and with a fuller knowledge of its action, there has been a marked tendency to use it in conditions other than the one in the treatment of which such brilliant results have been achieved. It has been found that in conditions other than diabetes insulin can be of very great advantage.

In *Il Policlinico* of January 5th, 1931, Dr. C. Toscano of the Medical Department of the University of Rome has given a very interesting review of conditions other than diabetes mellitus in which insulin is of therapeutic aid.

Excellent results are obtained in conditions of malnutrition. The use of insulin in these cases seems to have a favorable effect on anorexia, which is so often present. Insulin is used in these conditions very frequently by pediatricists. In conditions of malnutrition in infancy the dose of insulin is one unit per kilogram of weight, although some patients will tolerate as much as two or three units per kilogram. Coincidental with the use of insulin, large amounts of glucose are given, either by mouth or intravenously. As a result, the appetite is increased and patients seem to enjoy a distinctly greater sense of well-being. Of course, in cases of malnutrition due to constitutional disease, such as lues or tuberculosis, treatment with insulin alone will not achieve brilliant results. These are best seen in cases of uncomplicated malnutrition. In malnutrition in adults therapy with insulin also gives very good results.

It must be noted that organic disease of the gastrointestinal tract is a contraindication of the use of insulin. It is also pointed out that in cardiopaths insulin must be used with great caution and under no circumstances must a condition of hypoglycemia be allowed to set in. Wiechmann and Koch warn against the danger of hypoglycemia in individuals who are the victims of circulatory disease. In a hypoglycemic state the quantity of the blood is diminished and also its viscosity, and transitory aortic diastolic murmurs may appear with a fast pulse and definite enlargement of the heart to the left. The hypoglycemic state

is particularly dangerous in cases of angina pectoris and aortic insufficiency. The dose of insulin in adults must be individualized. Some patients can take as much as 50 to 60 units a day but only in exceptional cases.

It must be remembered that increase in weight does not parallel the dose of insulin given. In thin patients who have good appetites, small doses of insulin give the best results. On the other hand, in patients in whom malnutrition is due in the main to anorexia and there is no organic lesion, small doses of insulin are insufficient and one must have recourse to larger doses. Treatment is begun with small doses and increase is gradually made up to a total of 20 to 30 units a day, divided into two or three doses. Treatment is usually continued for from two to four weeks.

The use of insulin in cases of pulmonary tuberculosis has occasioned controversy, a number of authorities being enthusiastic over its use and others lukewarm or even hostile. The advantage of therapy with insulin in the tuberculous rests in the main upon the gain in weight obtained, with which of course there comes about an increase in appetite. Untoward results which may ensue as a result of treatment with insulin are: Alarming focal reactions; reactivation in cases apparently quiescent; possibility of protein sensitization, which may occur in any condition treated with insulin but seems very frequent in cases of tuberculosis; and marked lowering of blood-pressure.

It is well known that the administration of insulin brings about the lowering of blood-pressure. Gley and Kisthinios, confirming the work of Jung and Auger, have shown that hypotension observed in experiments on animals by intravenous injection of pancreatic extracts is not brought about by the hypoglycemic principle in insulin, but is due to certain impurities particularly abundant in certain commercial stocks of insulin, impurities having their origin in the pancreas and which have not been eliminated from certain preparations. In their more recent work, Gley and Kisthinios were able to isolate a substance from pancreas, angioxil, present in certain samples of insulin not wholly purified, and this substance has the property of definitely lessening arterial tension. On the other

hand, this substance has no effect in bringing about a hypoglycemic condition.

These animal experimentations have not been sufficiently confirmed in the human subject to warrant their adoption, but Vaquez, Giroux and Kisthinos have experimented with angioxil in obliterative endarteritis, as well as in aortitis and in angina pectoris with good results. They have also reported success in the treatment of varicose ulcers and in gastric and duodenal ulcers. Simnitzky has also used insulin in gastric and duodenal ulcers. The experiments were carried out in three groups of patients: First, patients with recent peptic ulcers; second, with recurring ulcers; and third, with ulcers complicated by other conditions. In addition to the usual diet, the patients were given 100 grams of puree of potato with the morning and evening meals. The insulin was given in doses of 20 to 40 units a day, in two injections given before the two principal meals. After a few doses in cases of recent peptic ulcers, there was a lessening of pain and a gain in weight, which the author believes was brought about by diminution of acidosis. The good effects of the treatment in a few cases were maintained for three or four months, but in the majority for a much longer period of time. This form of treatment is based on the supposed alkalinizing action of insulin; but if insulin acts rapidly on acidosis of diabetic origin, this effect is certainly less prominent and less constant in cases other than those of diabetes. On the other hand, among investigators Stemb, Gunther and Fröhlich, Boothby and Weiss have shown that the alkaline reserve is practically unmodified by insulin and also that there is nothing to prove that the pancreatic hormone acts in gastric and duodenal ulcer cases by increasing the alkaline reserve.

The idea of treating Graves' disease with insulin originated on the hypothesis of the antagonism between thyroid and pancreatic hormones. Coffin, in 1924, employed insulin in three cases of Graves' disease and noted improvement in the symptoms, which he attributed to a diminution in thyroid secretion brought about by insulin.

Insulin has also been found useful in the treatment of vomiting in children with acidosis. Its action in these cases is transitory but

definite. It is also of use in surgical practice quite independently of its well known importance in preparing diabetic subjects for operation. Hyperglycemia and postoperative acidosis constitute the chief indications for its use.

Thalbimer, in 1924, reported on five cases of hyperemesis gravidarum with insulin with excellent results. He combined the administration of insulin with intravenous injection of 10 per cent glucose, using two or three grams of glucose to each unit of insulin. Insulin has also been used in dermatology in furunculosis, in pruritus and also in chronic ulcers of the leg; and Langron has recently reported from Paris a case of facial eczema, the appearance of which was connected with an anaphylactic condition originating from the intestinal tract, which was cured with insulin.

Among other less important conditions for which insulin has been used may be mentioned Parkinson's disease, diabetes insipidus, myasthenia gravis, acromegaly and certain liver conditions whether or not associated with jaundice.

It will be seen from the preceding review that insulin has been used in a tremendous number of conditions and that some betterment has been noted in almost all of them. The editor would deplore the hasty and empirical use of this powerful substance in the absence of previously carefully controlled animal experimentation. Dr. Toscano, however, cannot be accused of trying to exploit insulin in any way. He has given European literature a careful survey and has culled from it those articles which he felt might be of advantage. One point is clear; namely, that the internist can no longer look upon insulin as a product to be thought of only in cases of diabetes. It is also evident that, as the psalmist says, "we are fearfully and wonderfully made," and that no biological product restricts its action to one system or organ in the body but extends that influence over the entire organism to a degree that is, as yet, but insufficiently understood and appreciated.

Careful Diagnosis

"Does you doubt mah wohd, do you call me a liah?"

"Nossuh, I jes' wishes to imply you has elephantiasis of the imagination."—*Lampoon*.

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D., *Editor*

PLANT DERMATITIS

The Department of Agriculture lists over 100 plants indigenous to the United States which occasionally are responsible for cutaneous eruptions. In this section of the country *Rhus toxicodendron* (poison ivy) is the most important. This is followed by the *Primula obconica* (the English primrose) as the second most frequent offender. Poison sumac (*Rhus venenata*) and poison ash (*Rhus diversiloba*) are less frequently the cause of an eruption.

The eruption appears a few hours to a day or two after contact with the plant. Ivy dermatitis usually appears the day following contact. The patient will usually give a history of having gone on a fishing trip or having made an excursion into the woods. The eruption produced by poison ivy usually appears in spring or summer as the result of coming in contact with the leaves of this plant. However, it may be produced by any part of the plant, including the roots. I saw a severe case of ivy dermatitis this past winter which appeared after the patient had gone into the snow-covered woods to gather Christmas trees. He felt sure he had not come in contact with the plant though he admitted his susceptibility to it. On investigation the owner of the land stated that it was covered with poison ivy.

The eruption usually appears on the face, hands and legs, but may also affect the genitals and in some cases large areas of the body. The lesions are at first erythematous and edematous. Later they become vesicular and in severe cases bullae appear. Occasionally these lesions become secondarily infected, forming pustules. The usual eruption consists of closely aggregated, tense, shiny vesicles which often show a linear configuration. When the face is involved the edema around the eyes is always pronounced. The mucous membranes are not involved. Itching and burning may be very severe but as a rule there are no constitutional symptoms. The eruption is usually self-limiting and disappears in a few days to a few weeks without scarring. In a small percentage of cases the eruption may persist for months and become eczematoid in character. The popular idea that the eruption

will recur spontaneously every year for seven years is not true. It will only recur when the patient again comes in contact with the plant. Very little, if any, immunity is produced by the disease. Some individuals seem to suffer more severely on subsequent exposures.

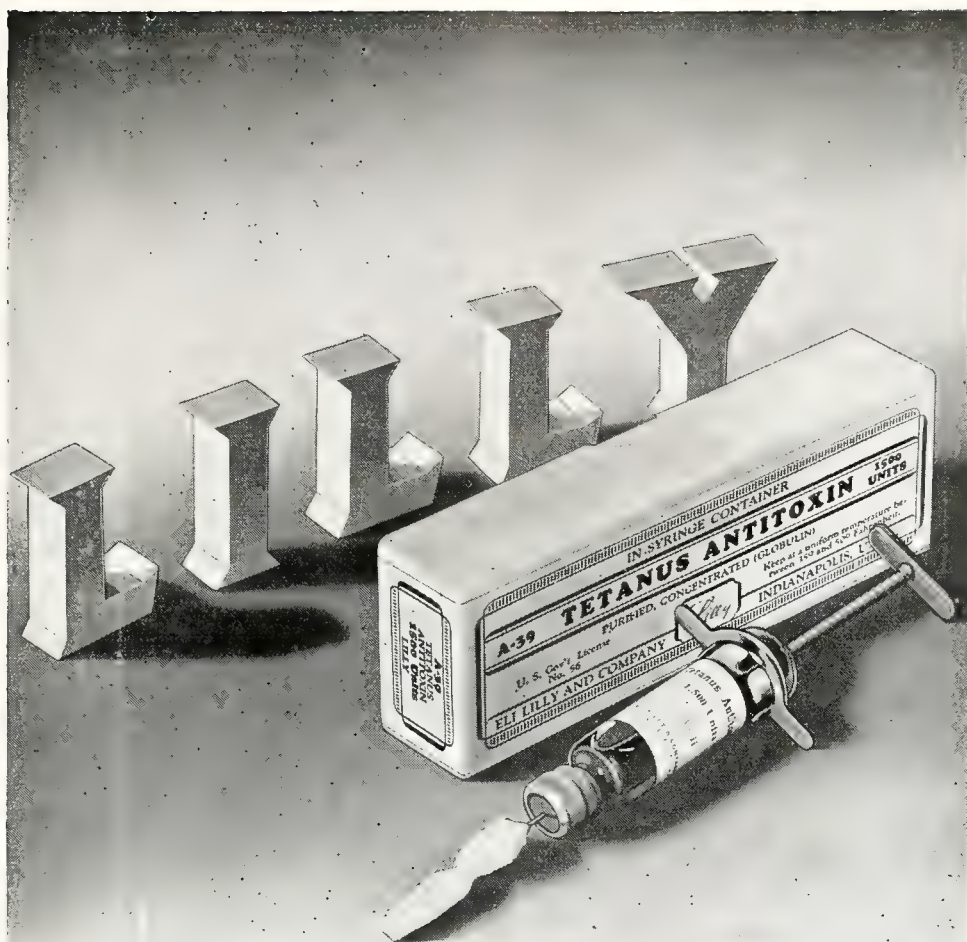
In some cases of plant poisoning it is difficult to determine the offender due to the fact that so many plants are capable of producing a dermatitis in susceptible individuals. Ivy and primrose will account for most of the cases seen here. I recently saw a woman who had had two attacks of dermatitis since December, which had been properly treated and promptly relieved. A third attack was the most severe of all. On close questioning it was found that the first attack began the day after her daughter returned home from an illness in a hospital. The daughter brought home a number of pot plants. Among these plants was a primrose. The mother cared for the plants and developed a severe dermatitis. She entered the hospital and recovered in a few days. Soon after she returned home she developed a second attack. This promptly subsided on hospitalization of the patient. The third attack began after she again returned home. A careful history revealed the fact that she had not been in the woods or even in her flower garden for several weeks prior to the last attack. She admitted caring for the primrose and had picked some dead blossoms a day before she noticed the last eruption. The eruption responded quickly to treatment, the primrose was removed from the house and the patient has since remained free of the dermatitis.

There are many remedies recommended for the treatment of this eruption. If the patient is seen when the eruption first appears it is advisable to wash the affected areas with soap and water to remove the oily irritant. This should be followed by a soothing preparation such as the calamine and zinc oxide lotion. When the swelling is pronounced boric acid packs are advantageous. Rhus antigen is sometimes given in ivy cases with beneficial results.

Love at Second Sight

"I hear that Katherine is marrying that X-ray specialist."

"Oh, yeh? What can he see in her?"—*Boston Beanpot.*



THERE is a dependable pharmacist near you who is prepared to render prompt service on Tetanus Antitoxin, Lilly. This product is noteworthy because of its potency, its concentration, its comparative freedom from reaction-producing proteins, its low total solids, its clarity and limpidity; and also because of its ready availability in all sections of the country, through the drug trade. Order in syringes, 1,500 to 20,000 units, or in vials of 1,500 units.

ELI LILLY AND COMPANY · *Indianapolis*

GYNECOLOGY

CHARLES R. ROBINS, M.D., *Editor*

PREVENTION OF CANCER OF CERVIX

It is generally agreed that other pathology of the cervix uteri is a strong predisposing cause of cancer. This conclusion is based on years of observation and is particularly true of lacerations. The solution of continuity with the subsequent effort of repair causes the production of new cells which in this highly specialized tissue are liable to take on malignancy.

The symptoms that arise from laceration of the cervix, however, are not due to laceration itself but to the secondary changes that arise as a result of the laceration. These are leucorrhea, erosion, eversion, cystic degeneration and chronic cervicitis. Treatment of the tear alone, that is to say, simple denudation and suture, will accomplish nothing for the cure of the patient, if the secondary changes are not overcome also. In order to get the cervix in a condition to justify the repair of the laceration, it was formerly the practice to subject the patient to a prolonged period of local treatment to overcome the results of inflammation. This treatment was by no means uniformly successful, because many of the changes were too deep-seated to be reached.

There are other causes of cervicitis besides laceration, among these notably gonorrhea.

In recent years cauterization of the cervix has come into vogue in the treatment of the erosion and chronic cervicitis whatever might be the cause. The radial cauterization carefully done and the cauterization by puncture have been popular methods, and the results have been extremely satisfactory. It has been found also that, in addition to relieving the chronic cervicitis, the cervix often shapes itself up so that the laceration is no longer apparent. While it may be necessary to repair a cervix after it has been cauterized, our experience is that this is seldom the case.

We have then in cauterization a means of successfully treating chronic cervicitis whether due to laceration or other causes, so that cauterization offers the best means of removing those types of pathology that most frequently are the forerunners of cancer.

In a most interesting study by Bartlett and Smith, in *S. G. & O.*, February, 1931, the results of treatment of cancer by various methods is analyzed, and in this article the

following statement occurs: "Approximately 1,700 cervices were cauterized in this hospital, between 1914 and January, 1929. No one of these patients is known to have developed cervical carcinoma. Deep radial cauterization with the actual cautery is practiced and is fairly sure prophylaxis against malignancy."

It would appear from this that cauterization of the cervix is a positive prophylaxis for most common diseases of the cervix, also the most certain preventive of the subsequent development of cancer.

"A State which dwarfs its men, in order that they may be more docile instruments in its hands even for beneficial purposes, will find that with small men no great thing can really be accomplished, and that the perfection of machinery to which it has sacrificed everything will in the end avail it nothing, for want of the vital power which, in order that the machine might work more smoothly, it has preferred to banish."—John Stuart Mill, in *On Liberty*.

Fitting Response to the One Civil Request

"For the one civil autograph collector, Charles R.:

"You have sent me a slip to write on; you have sent me an addressed envelope; you have sent it to me stamped; many have done as much as that. You have spelled my name right; and some have done that. In one point you stand alone; you have sent me the stamps for my own post office, not the stamps for yours. What is asked for with so much consideration I take pleasure to grant. Here, since you value it, and have been at such pains to earn it by unusual attentions—here is the signature. ROBERT LOUIS STEVENSON."

THE PUBLIC NEEDS MANY DOCTORS AND ONLY A FEW SPECIALISTS

(*Illinois Med. Jour.*, Dec., 1930, via *Jour. Assn. Amer. Med. Colleges*, May, 1931)

More than 75 per cent of human ailments are to be classed accurately as temporary trivialities. Intent upon hopes of the critical laparotomy, or other serious surgical operation, young physicians are prone to neglect the every-day need of the ailing public. We are educating specialists, and not doctors. The public needs many doctors and only a few specialists.

Out of the inattention of scientific men for ordinary wants of an indisposed people, spring and flourish the mass of cults and of mock medical systems that deprives the sick of the available expert medical attention. In other words, it is the seeming indifference of physicians toward the annoying ailments of prevalence that forces the people to seek care and a sympathetic ear from the pseudists.

The drought and pellagra

If history repeats itself, poverty and privation, due to the drought, will leave pellagra in their wake this spring—as after the Mississippi flood. Authorities agree that a preparation of yeast rich in vitamine-G (B_2) serves as the best preventive of, and treatment for pellagra. To relieve pellagra during the flood of 1927, Dr. Joseph Goldberger, the U. S. Public Health Service and the American Red Cross employed large quantities of Brewers' Yeast-Harris and Yeast Vitamine-Harris in the Southern States.

Their favorable reports thoroughly justified the use of these products. Brewers' Yeast-Harris and Yeast Vitamine-Harris differ from other preparations of yeast in that biological assay of the output proves them to be uniformly very rich in the pellagra-preventive principle, vitamine-G (B_2), and also in vitamine- B_1 .

As a dietary adjunct, Yeast Bouillon Cubes Harris also furnish a dependable source of vitamine-B complex, containing both factors F and G in the form of a delicious broth.

To treat pellagra, prescribe 2 level teaspoonfuls of Brewers' Yeast-Harris two to six times daily.

YEAST VITAMINE-HARRIS

A Concentrate of
BREWERS' YEAST-HARRIS

Samples on request

THE HARRIS LABORATORIES



TUCKAHOE, NEW YORK

BOOK REVIEWS

PHYSIOLOGICAL PRINCIPLES IN TREATMENT, by W. LANGDON BROWN, M.A., M.D., Cantab., F.R.C.P., Physician to St. Bartholomew's Hospital; Consulting Physician to the Metropolitan Hospital, with the collaboration of R. HILTON, M.A., M.B., Cantab., M.R.C.P., Assistant Physician and Assistant Director of the Medical Unit St. Bartholomew's Hospital. *William Wood & Co., New York, 1930. \$3.75.*

The principles of organo-therapy are stated in a manner at once clear and convincing: one may learn here where it may be expected to be useful, where useless, and where dangerous.

The nervous factor is important in gastric digestion. Soups are indicated in hypoacidity. It is often well to allow some food for which the patient has a special liking even if it have a bad reputation in the disease. Even when the rectal feed is completely pancreatized, it is doubtful if it can be absorbed. Only by a close and accurate study of the normal mechanism of the alimentary canal can we arrive at sound conclusions as to the value of any procedure, medical or surgical.

Uremia is merely a term to designate the final failure of the kidneys to discharge their duty.

Insulin is prolonging the lives of many diabetics until an age at which the normal expectation of life is practically nil.

Most diseases of otherwise unexplained causation are now referred to intestinal intoxication. It is such an easy explanation that it is just human to yield to the temptation in the face of perplexity.

If the other indications for the use of digitalis are present, we should not be deterred from using it because the blood-pressure is raised. The problem of treatment of high blood-pressure is to be met by putting the patient into the way of physiological righteousness rather than by depressor remedies.

One drachm of calcium lactate may increase the coagulability of the blood in 20 min. and maintain its effect 4 to 17 days. Also, it is useful in preventing serum sickness, being given at the time of injection of antitoxin. Its usefulness is attributed to an increased coagulability of the blood preventing "serous hemorrhage", as occurs in chil-

blains, hives, angio-neurotic edema, albuminuria without nephritis, and in some forms of dull chronic headaches.

It is an entertaining, instructive and useful book, well calculated to stimulate rational enthusiasm in therapy.

MEDICAL PSYCHOLOGY: The Mental Factor in Disease, by WILLIAM A. WHITE. *Nervous and Mental Disease Publishing Co., New York and Washington, 1931.*

In the lucid style which characterizes all his writings the author develops the theme that every disease, potential or present, has a psychological aspect and that, for this reason, psychology should be an essential part of every medical curriculum on the same basis as physiology or pathology. As this was not at all true of the courses of study which doctors now in practice were given in college, and as Dr. White is one of the few who write on psychology or psychiatry in a way at all understandable to plain doctors,—even with good dictionaries in their hands—practicing physicians will do well to digest all in this book and they and their patients will richly profit from the daily application of the knowledge so gained.

THE INTERNATIONAL MEDICAL ANNUAL: A Year Book of Treatment and Practitioner's Index. CAREY F. COOMBS, M.D., F.R.C.P., and A. RENDLE SHORT, M.D., B.S., B.Sc., F.R.C.S., Editors. (Twenty-nine Contributors.) 49th year. 1931. *William Wood & Co., New York. \$6.00.*

As the editors felicitously say it (even in a somewhat mixed metaphor): "Our net is cast wide, but by far the greater number of the articles find their way into the waste-paper basket." The net was cast in all the seven seas and in not one was a water-haul made. Fourteen countries contribute to the advances in surgical treatment here recorded.

It is admitted that sometimes there has been nothing over several years about some common ailment; the reason is, nothing has come out worth mentioning.

Antitoxin treatment of botulism; advances in the treatment of leg ulcers; "dry" treatment of epilepsy; methods giving better results in colitis; care in removal of septic teeth; two remedies for high blood-pressure—



THE BABIES HOSPITAL—just across the sound from WRIGHTSVILLE BEACH, N. C.

It is a modern fire-proof hospital for infants and sick children, with accommodations for the mothers who desire to stay with their babies. There is a milk station in the hospital where infants outside of the hospital may obtain milk formulas. The salt air and pure sunshine is very stimulating to the undernourished child with poor appetite.

A four-months post-graduate course given to graduate nurses interested in pediatrics

Pediatrician-in-Charge—J. BUREN SIDBURY, M.D.

acetylcholine, when sharp reduction must be made, and cucurbitacin (from watermelon seed) (*vide* articles by Dr. Irving Barksdale, Greenville, S. C., in this journal); insulin in certain cases of anorexia; traumatic neuroses and the impossibility of curing them while the patients are receiving compensation; hyperinsulism; removal of parathyroids to produce regression of bony lesions; allergic phenomena; successful removal of emboli of the pulmonary artery; many advances in ophthalmology; spinal anesthesia; and diathermy for puerperal sepsis,—all these subjects and many others are treated of by more than a score of authors of wide experience and exceptional ability in an excellent book of more than 500 pages.

HANDBOOK OF PHYSIOLOGY, by W. D. HALLIBURTON, M.D., LL.D., F.R.C.P., F.R.S., Emeritus Professor of Physiology, University of London, King's College, and R. J. S. McDOWALL, M.B., D.Sc., F.R.C.P. (Edin.) 19th edition with numerous illustrations in the text, many of which are colored, and 4 colored plates. *P. Blakiston's Son & Co.*, Philadelphia, 1930. \$4.75.

A new edition of Halliburton and McDowall is always welcome. The information it carries represents careful weighing, proving and culling of and from over-enthusiastic claims of investigators and observers.

The revision has been very general, necessitated by advances and revaluations. The plan of this edition represents a radical change from an anatomical conception to one derived

from the point of view of physiological processes.

The stabilizing influence of a reliable text such as this in a recent edition is the only possible corrective to the exaggerations of self-seeking manufacturers of so-called remedies, and others who have faith and zeal without discretion.

INTERNATIONAL STUDIES OF THE RELATION BETWEEN THE PRIVATE AND OFFICIAL PRACTICE OF MEDICINE WITH SPECIAL REFERENCE TO THE PREVENTION OF DISEASE, conducted for The Milbank Memorial Fund, by SIR ARTHUR NEWSHOLME, K.C.B., M.D., F.R.C.P. Vol. I. The Netherlands, Scandinavia, Germany, Austria, Switzerland. *Williams & Wilkins Co.*, Baltimore; *George Allan and Unwin, Ltd.*, London.

The proper sphere of the private physician in the field of public health is considered a major problem in public health administration. Having few U. S. precedents to guide, the Milbank Fund arranged for an international investigation.

In Netherlands nearly every worker belongs to a sick fund. Medical assistance, like help for the poor in other respects, is limited to instances in which voluntary assistance does not suffice.

In Denmark the municipalities and local councils are required to give medical treatment to the poor. In the larger towns and cities a doctor is employed on fixed salary, in other parts the council arranges with one or

more general practitioners. The duties of the medical officers for the poor are light, as 66 per cent of the population are members of sickness insurance societies. The district medical officers hold office for life and are pensionable. They treat all cases of venereal disease free of charge and advise on health matters.

A large part of the medical profession in Sweden is employed by the State as part-time officials. The country is divided into districts, and in each district is a doctor appointed by the State. His fees are fixed by the Government, the communities paying the fees for the poor. In the cities are several district doctors who are paid fixed fees for care of the sick, but make their own arrangements with private patients. In Norway the arrangement is in general that of Sweden. A feature of interest is that the medical officer of each commune "supervises the medical practitioners, pharmacists, dentists and midwives."

In Germany medical attendance for the majority is under the National Sickness Insurance plan (starting under Bismarck in 1883), a system which comes in for heavy adverse criticism. Private practice has small scope.

In Austria about 80 per cent of the population is in such medical insurance, the insured are said to be dissatisfied, the doctors deprived of freedom, have little interest in the sick and are impoverished.

It would be well for medical editors and others in positions to show the dire results to whole populations of suppressing or hamstringing the individual medical practitioner to study this volume and those to come, and tell doctors, legislators and philanthropists what lessons are here taught.

THE THEORY OF OBSTETRICS: A Functional Study of Child-Bearing Based on a New Definition of Normal Labor and on a New Theory of Uterine Inertia, and Illustrated by a Detailed Statistical Analysis of 100 Consecutive Labours, and Some Records of Cases of Painless Labour, by M. C. DeGARIS, M.D., Author of "Clinical Notes and Deductions of a Peripatetic." William Wood & Co., New York, 1931. \$5.00.

The author is convinced that it is not natural for labor to be painful. His book is a "call to the general practitioner to record,

analyze, and think about his cases" with a view to learning the actual condition of child-bearing today. This is a research possible only to the general practitioner.

A new concept of *normal* labor is offered and urged. It is contended that most of what is commonly regarded as *normal* labor, is *abnormal*, the abnormalities induced by pathologic states in parts other than the genital organs, or in the organism as a whole. One hundred consecutive labors are analyzed. Painless labors are not pathological, therefore it is argued that, pain not being a necessity to successful child-birth, we should seek rather the cause of pain's presence than of its absence.

Uterine inertia, not puerperal sepsis, is regarded as the fundamental problem in obstetrics, and this as being due most often to dietary errors or infections. Autogenous infections are considered to be very common.

It's a thought-provoking elaboration of a serious problem with which we are making only slight progress. To any degree that Dr. DeGaris' teaching can make of none effect "In sorrow thou shalt bring forth children," will womankind (and mankind, too) rise up and call his name blessed.

PROTOZOAN PARASITISM OF THE ALIMENTARY TRACT: Pathology, Diagnosis and Treatment, by KENNETH M. LYNCH, M.D., Professor of Pathology, Medical College of the State of South Carolina, Charleston. The MacMillan Company, New York, 1930. \$3.75.

How pathologic are intestinal protozoa?, is a question which has found no conclusive answer, though the subject has given rise to a deal of discussion over decades.

The author tells us that to many who assume the responsibility for identifying protozoa the cyst is an unrecognized object, and that there is much more of lack of information and even misinformation on the subject.

The prevalence of infestation with protozoa (up to 50%), methods of identification in different stages, differentiation according to degrees of harmfulness all the way to varieties which have never been known to do any harm, symptoms produced by certain of them, diagnosis and treatment:—all this is given in a plain, helpful way.

This book is welcomed as an authoritative statement of the present case against intesti-

nal protozoa, as a bright light turned on a dark corner of medical practice, as a product well worthy of the Charleston tradition.

HANDBOOK OF THERAPEUTICS, by DAVID CAMPBELL, M.C., M.A., B.Sc., M.D., "Pollok" Lecturer in Materia Medica and Pharmacology in the University of Glasgow; Assistant Physician to the Western Infirmary of Glasgow; Examiner in Materia Medica and Therapeutics in the Universities of St. Andrews and Glasgow; Formerly Physician to Out-Patients, Western Infirmary; Examiner in Materia Medica and Therapeutics in the University of Aberdeen, and Rockefeller Fellow in Pharmacology and Therapeutics. *William Wood & Co.*; New York; *E. & S. Livingstone*, Edinburgh, 1930. \$4.50.

The author says the patient may be interested in the exact name of the disease, he may want to know what is likely to be the outcome, but he desires first and last to be helped to get well. This is kept clearly in mind from beginning to end of the book. The first consideration is have the patient in the best possible situation, whether in home or hospital, and this is worthy of considerable attention; also advice to members of the household as to how to care for the patient. Very few things are mentioned that are not described in the pharmacopoeia. "The man who is patron of all drugs will too often be found not to be master of a single remedy."

Following the usual custom of English medical writers, reasons are given and cost constantly considered. Fallacies are pointed out, e.g., that of expecting any good to the throat from a gargle when a gargle does not go beyond the anterior pillars of the fauces. What to do and how to do it are well told. A valuable chapter is that dealing with Emergency Therapeutics. An appendix carries an alphabetical list of drugs, with dosage in English and metric systems.

A student of treatment, in or out of college, will find Campbell's "Handbook" chock-full of information that will do sick folks good.

TEXTBOOK OF HISTOLOGY FOR MEDICAL AND DENTAL STUDENTS, by EUGENE C. PIETTE, M.D., Pathologist and Director of the Laboratory of the West Suburban Hospital, Oak Park, Illinois; Consultant Pathologist of the Chicago State Hospital; Formerly Prosecutor (Associate Professor) of Histology and Embryology of the Medical Faculty

of the Imperial University of Kharkov, Russia; Formerly Assistant in Pathology and Bacteriology, University of Illinois College of Medicine, Chicago. 277 illustrations, some in colors. *F. A. Davis Co.*, Philadelphia, 1931. \$4.50.

Part I traces from biology down to histology and describes the essentials of histological technic in a rational and readable way. Part II is devoted to the cell in its various forms with necessary references to functions. Parts III and IV treat of the tissues and the systems, respectively, each tracing back to the cell and keeping the cell constantly to the fore.

Chapters on the blood and on the central nervous system are especially satisfying. Those on the reticulo-endothelial system and the autonomous nervous system contain much which will be new to those who have not kept up with the additions to knowledge of the histology of these structures.

The style is unusually lucid. The combination of a terse, lucid text and nearly 300 excellent illustrations make a book of unusual value.

ELECTRICAL HEALTH HELPS

The attention of physicians and patients alike is invited to those electrical appliances which can be used to such splendid advantage for the comfort and health of persons who are not enjoying perfect health.

The electric heating pad, for instance, constant at any desired temperature, is a God-send to thousands who need applications of heat for the relief of pain. Small water heaters and other small appliances are found to be of great convenience and value in sick rooms.

The G. E. Sun Lamp, the Master Healthizer or the Graybar Stimulator, and other appliances may be used in many cases with much benefit.

You are invited to inspect these and other appliances at any of our stores.

**SOUTHERN PUBLIC UTILITIES
COMPANY**

**NORTH CAROLINA PUBLIC
SERVICE COMPANY**
Charlotte, N. C.

CLINICAL ALLERGY, Particularly Asthma and Hay Fever: Mechanism and Treatment, by FRANCIS M. RACKEMANN, M.D., Physician to the Massachusetts General Hospital; Instructor in Medicine, Harvard Medical School, Boston. *The MacMillan Co.*, New York, 1931. \$10.50.

An objective is to digest the mass of literature on allergy and closely related subjects and to correlate some of these observations with the author's findings.

The difference between allergic individuals and those called normal is said to be one of degree only. The symptoms manifested by different sensitized animals are given in considerable detail, and contrasted. The chemistry of human hypersensitiveness is complicated, still, in the cases of a number of the commoner offenders on this score, the toxic element is evidently contained in nitrogen-containing fractions which can be cut off from the crude material by simple means. Antibodies fixed to the cells are responsible for the reaction which takes place when antigen comes in contact with the cells.

The next two chapters are on subjects of great bedside interest—anti-anaphylaxis and desensitization, and bacterial allergy. The nature and origin of allergy are discussed widely, yet minutely. The diagnosis of hypersensitiveness to protein hinges on the chief symptom being one characteristic of the group, some other allergic symptom past or present, allergic inheritance, positive skin tests, and eosinophilia in the absence of other obvious causes of this blood change.

Migraine, certain chronic coughs and obscure abdominal attacks, bladder pains, epilepsy and purpura are attributed by some to allergy.

The treatment of hay fever, preventive and curative, general and local, is given great detail. All aspects of asthma are covered with care. Numerous case records are cited. Among those quoted extensively on migraine and other phases are Wm. Allan, Charlotte, and W. T. Vaughan, Richmond.

There is a concluding discussion and summary which will serve to counteract any tendency of the text to over-emphasize the importance of allergy as a factor in morbidity.

The reviewer regards this volume as the most accurate and valuable contribution to the subject of clinical allergy which has come to his desk.

DIABETES: Its Treatment by Insulin and Diet, A Handbook for the Patient, by ORLANDO H. PETTY, A.M., M.D., F.A.C.P., Professor of Diseases of Metabolism, Graduate School of Medicine, University of Pennsylvania. Illustrations and Tables, fifth revised and enlarged edition. *F. A. Davis Company*, Philadelphia, 1931. \$2.00.

This edition of this popular little guide-book for the diabetic patient has in many ways been clarified and otherwise made more useful. Obesity is given detailed consideration. The diabetic is instructed, not only in ways to keep from dying from diabetes, but in rational health measures in general. It is not lost sight of that it is always desirable to keep a patient comfortable in addition to keeping him alive.

THALLIUM A DANGEROUS DRUG

(From an Editorial, *The New England Journal of Medicine*, May 21st, 1931)

Apparently the margin between a depilating and a toxic dose is extremely small and allows for no idiosyncrasies. The public should be warned against its use for the removal of superfluous hair and physicians should either use the drug with great caution or, as many writers suggest, abandon it altogether. Other less dangerous, though slower, means of depilation are available: for example, the roentgen ray. Although it, too, has dangers, specially in inexperienced hands, the damage done by an overdose is local and not fatal.

NON-EFFICIENCY OF ANTISEPTICS USED IN MIDWIFERY (Garrod, L. P., St. Bartholomew's Hospital, in *The British Medical Journal*, April 4th, 1931)

Of the germicides tested, few possess a bactericidal action on *Strep. pyogenes* which appears adequate.

There is no doubt that brilliant green is by far the surest safeguard against streptococcal infection which can be used; it would be interesting to know whether grave sepsis has ever been seen to follow its employment. It is objected to on account of its staining propensities; whether stained linen or death from septicemia is the greater evil is a question which seems to admit of only one answer. Next in order of efficiency come the proprietary coal-tar germicides—monsol, izal and cyllin; these are sometimes objected to on account of their smell. *Acriflavine, rivanol and one brand of lysol are on the borderline of bactericidal efficiency; other lysols, mercurochrome and mercery salts are ineffective.* [Italics ours.—S. M. & S.]

The purpose of this paper is to indicate which germicides may be expected to prevent streptococcal infection during childbirth; the method of their application is outside its scope. That a technique can be devised which would ensure their effective action is hardly doubtful.

NEWS ITEMS

At the recent meeting of the *South Carolina Medical Association* Dr. J. R. Young, Anderson, was elected President-Elect; Dr. E. A. Hines, Seneca, re-elected Secretary-Treasurer; Dr. W. L. Pressley, Due West, Councilor of Third District and Dr. R. E. Abell, Chester, and Dr. N. B. Heyward, Columbia, re-elected to the Board of Medical Examiners.

The following Councilors were re-elected: Dr. J. H. Cannon, Charleston, First District; Dr. J. R. Des Portes, Fort Mill, Fifth District; Dr. T. R. Littlejohn, Sumter, Seventh District.

The membership of the new STATE BOARD OF HEALTH of North Carolina is as follows: Dr. J. T. Burrus, High Point (president); Dr. J. N. Johnson, Goldsboro; Dr. C. V. Reynolds, Asheville; Dr. H. L. Large, Rocky Mount; Dr. L. B. Evans, Windsor; Dr. S. D. Craig, Winston-Salem; Dr. H. G. Baity, Chapel Hill; Mr. A. T. Goode, Asheville; Dr. J. M. Parrott, Kinston. Dr. Parrott has been tendered to post of State Health Officer conditional on acceptance by June 11th. According to the papers he is expected to accept.

S.M.A. CORPORATION did their bit to promote HOSPITAL DAY by ordering announcements May 11th and 12th over all the radio stations carrying their programs for their commercial product, Pantry Cream.

This was by way of recognition of the helpfulness of the medical profession in prescribing S.M.A. in cases deprived of breast milk. Since hospitals are tools and workshops to so many physicians it was felt that such announcements were some small return for the courtesy of the medical men in recognizing S.M.A.

No directions are given on the lay package. Moreover, each can bears this statement: "Use only on order and under supervision of a licensed physician. He will give you instruction." It is advertised ethically to the medical profession only and sold exclusively through prescription pharmacies.

MECKLENBURG CO. (N. C.) MED. SOC., May 19th: Case Reports: 1. (a) Tuberculosis of Thyroid Gland, (b) Sarcoma of the Stomach, Dr. Jas. Gibbon. 2. (a) Banti's Disease, (b) Leutic Stricture of the Pylorus, Dr. R. B. McKnight. Paper: Phrenicotomy—Its Indications and Technic, Dr. J. P. Kennedy.

THE MECKLENBURG COUNTY MEDICAL SOCIETY's regular meeting, June 2nd, was taken up a general discussion of Medical Economics and allied problems of importance to the profession. At the next meeting it is anticipated that definite action will be taken on proposals made.

THE JOHN SEALY HOSPITAL of Galveston, Texas, has an endowment of more than 25 million dollars. When the \$500,000 Outpatient Clinic recently was completed and opened without so much as an informal ceremony, another chapter was written in the history of one of America's wealthiest yet least publicized medical institutions.

DENTAL HYGIENISTS, licensed and registered on the same basis as dentists in twenty-five States, are chiefly women. There are 1,800 women engaged in this preventive phase of dentistry throughout the United States.

DUKE HOSPITAL

Durham, N. C.

WARD PATIENTS. Duke University cannot give charity treatment to all who apply, therefore patients whose incomes are less than \$15 per week should apply for examinations or for admission to the hospital wards (whether full-pay, part-pay or free), through their family physicians, to the Duke Public Dispensary (Tel. Durham F-131) on the days and hours listed below. The charge for examinations in the Duke Public Dispensary is \$2, exclusive of X-rays and special tests, and the ward rate is \$3 per day, if the patient can pay. Welfare departments and churches should assist in the payment for the needy.

SCHEDULE OF THE DUKE PUBLIC DISPENSARY. White patients at 1 p. m.; colored at 3 p. m. *Medicine and General Surgery*: Daily, except Saturdays, Sundays and holidays. *Obstetrics, Women's Diseases and Urology*: Tuesdays and Fridays. *Children's Diseases, Ear, Nose, Throat and Dentistry*: Mondays and Thursdays. *Eye*: Thursdays. *Asthma, Hay Fever and Skin Diseases*: Tuesdays. *Syphilology*: Wednesdays. *Orthopedics*: Mondays and Wednesdays.

PRIVATE PATIENTS. Patients who can pay the private rates of \$5 to \$8 per day may at any time, through their family physicians in consultation with any member of the hospital staff, reserve private rooms by telephoning to the admitting office (Durham F-131). Appointments for private examinations and treatment may be made in advance by telephoning to members of the hospital staff.

Every effort is being made to cooperate with the medical profession, and patients are asked to return to the physicians who referred them to the hospital and public dispensary.

For his distinguished service to the Red Cross several years ago in Siberia, DR. D. E. FORD, New Bern, Craven county health officer, was invited to the banquet given May 21st at the Willard Hotel in Washington, in celebration of the 150th anniversary of the founding of the Red Cross.

DR. WILLIAM ZENTMEYER, of Philadelphia, professor of Ophthalmology in the University of Pennsylvania post-graduate school, was recently the guest of Dr. Frank C. Smith, of Charlotte. Dr. Zentmeyer was in 1916 president of the Ophthalmological section of the American Medical Association and in 1926 he headed the American Ophthalmological Society.

DR. EBEN ALEXANDER, of Knoxville, visited his mother in Greensboro for a few days about the middle of May.

DR. J. A. STUCKY, of Lexington, Ky., was killed, and DR. ROBERT C. LYNCH, of New Orleans, was fatally injured in a collision between their automobile and a bus near Richmond, Ky., May 12th.

DR. DAVID M. WOLFE, of the University Hospital, of Augusta, Ga., will serve as the resident camp physician at the Piedmont Boy Scout camp at Lake Lanier, N. C.

DR. DAN E. SEVIER, Asheville, has been made Director of Public Welfare of his city.

DR. JULIAN A. MOORE, Asheville, was elected president of the medical alumni of the University of North Carolina at the session of the State Medical Society in Durham. He succeeds Dr. Frank C. Smith, of Charlotte. Dr. William Coppridge of Durham was elected vice-president and Dr. L. E. Fields of Chapel Mill secretary-treasurer.

DR. J. D. S. DAVIS, 72-years-old surgeon who was widely known for his operative and experimental work and his improvement of x-ray treatments, died May 17th, at Birmingham, Ala., of injuries received two weeks ago when Dr. Davis was struck by a taxicab.

DR. L. B. MCBRAYER, Southern Pines, North Carolina, addressed by invitation the Rotary Club of Statesville on May 19th.

DR. IRA M. HARDY, Kinston, has been a member of the board of the Caswell Training School.

DR. ALGERNON REECE of New York has been visiting his mother, Mrs. A. B. Reece at her home in the Addison apartments, Charlotte.

DR. JOHN E. S. DAVIDSON, Charlotte, graduate of both the law and medical schools of the University of Maryland, is asking each alumnus in this or adjoining counties to notify him of his willingness to join an alumni chapter as soon as possible. Graduates of any of the various schools of the university, which includes schools of medicine, law, pharmacy, arts and sciences, and agriculture, are particularly asked to join.

DR. J. CLEMENT ALLISON, a native of Statesville, N. C., and a son of Wade H. Allison, of Washington city, died of pneumonia on May 18th, in Western Pennsylvania Hospital, in which he was serving an internship. He was a graduate in medicine of George Washington University.

DR. THOMAS L. DRISCOLL of Richmond has been commissioned a major in the medical reserve corps of the army.

THE CROWELL CLINIC of Charlotte, announces to the profession that Dr. L. D. McPhail has become a member of the staff and is in charge of the department of proctology.

Our Medical Schools

UNIVERSITY OF VIRGINIA

Dr. Tiffany J. Williams, for the past two years obstetrician and gynecologist at the Great Falls Clinic, Great Falls, Montana, has been appointed Professor of Obstetrics to succeed Dr. Francis Bayard Carter, who goes to Duke University as Professor of Obstetrics. Dr. Williams received his M.D. degree from Johns Hopkins University in 1923. He served for one year in the Johns Hopkins Hospital; one year in the Sloan Maternity Hospital, New York; one year in the Yale Medical School and Hospital, and three years in the Department of Obstetrics and Gynecology at the University of Iowa Medical School.

Dr. H. J. Conn, Chairman of the Commission on the Standardization of Biological Stains, and Director of the New York State Agricultural Experiment Station at Geneva, New York, visited the Medical School on April 14th.

Dr. Fred C. Zapffe, Secretary-Treasurer of the Association of American Medical Colleges, spent April 16th and 17th at the University.

Dr. H. L. Higgins, Professor of Pediatrics at the Massachusetts General Hospital, Bos-

ton, Massachusetts, visited the Medical School on April 20th.

Dr. James R. Cash, since 1924 Professor of Pathology at the Peiping Union Medical College in China, has been appointed to the Walter Reed professorship of Pathology, succeeding the late Dr. Harry T. Marshall, as the second incumbent of this chair. Dr. Cash received his A.M. degree from the University of Virginia ('15) and his M.D. degree from Johns Hopkins ('19). For five years following graduation he was connected with the Department of Pathology of Johns Hopkins University.

Dr. William A. White, Superintendent of St. Elizabeth's Hospital at Washington, delivered the address at the annual initiation ceremonies of the honor medical society, Alpha Omega Alpha, on April 24th. He spoke on Psychological Medicine a Necessity. Dr. William Root of Slatersville, New York, founder of the society, was present for the occasion.

Dr. J. C. Simpson, Professor of Histology and Embryology at McGill University, Montreal, Canada, and Assistant Dean of the Medical School, visited the University on April 25th.

The fifth Graduate Clinic, conducted by members of the Medical Staff, was held on April 30th and May 1st.

Dr. Lawrence T. Royster, Professor of Pediatrics, gave the principal address at the Duke University Medical School on the occasion of the installation of a chapter of Alpha Omega Alpha on April 29th.

Four members of the Medical Staff attended the meetings of the Clinch Valley Medical Society at Lebanon, Va., on April 25th. Dr. William H. Goodwin spoke on Surgical Lesions of the Mammary Gland, Dr. Francis Bayard Carter on Management of Occiput Posterior Presentation, Dr. Henry B. Mulholland on Diabetes Mellitus, and Dr. William W. Waddell on Childhood Tuberculosis.

At the meeting of the University of Virginia Medical Society on April 20th, Dr. Royster spoke on Congenital Syphilis, Dr. W. W. Waddell gave a Review of the Pediatric Service for 1930, and Dr. Antonio Gentile presented the results of his research on Cholecystogastrostomy.

Dr. J. Edwin Wood attended the recent meetings at Atlantic City of the American

Society of Clinical Investigation and the Association of American Physicians. On May 5th he spoke before the Association on Heart-block.

Dr. H. E. Jordan attended the meetings of the National Academy of Sciences and the National Research Council (Medical Division) held in Washington April 27th to 30th.

Dr. Paul D. White of the Massachusetts General Hospital, Boston, Mass., and Dr. C. Sydney Burwell, Professor of Medicine at the Vanderbilt University Medical School, visited our Medical School on May 7th.

The Commencement Exercises of the Graduating Class of the University of Virginia Hospital School for Nurses were held on May 7th. The class numbered 30. Dr. Kenneth F. Maxcy delivered the address.



IT COSTS LESS

TO

TRAVEL BY TRAIN

The Safest, Most Economical, Most Reliable Way
TWO-DAY LIMIT round trip tickets on sale daily at ONE and ONE-THIRD (1 1/3) FARES for the round trip between all points within a radius of 150 miles.

SIX-DAY LIMIT round trip tickets on sale daily at ONE and ONE-HALF (1 1/2) FARES for the round trip between all points within a radius of 150 miles.

FARES FROM

CHARLOTTE
NORTH CAROLINA

To	One Way Fare	Round Trip "Two-Day Limit"	Round Trip "Six-Day Limit"
ASHEVILLE, N. C.	\$5.21	\$6.95	\$7.85
BARBER, N. C.	1.56	2.10	2.35
BLACKSBURG, S. C.	1.67	2.25	2.55
CHESTER, S. C.	1.60	2.15	2.40
COLUMBIA, S. C.	3.90	5.20	5.85
CONCORD, N. C.	.77	1.05	1.20
DANVILLE, VA.	5.12	6.85	7.70
GASTONIA, N. C.	.78	1.05	1.20
GREENVILLE, S. C.	3.84	5.15	5.80
GREENSBORO, N. C.	3.38	4.55	5.10
HIGH POINT, N. C.	2.84	3.80	4.30
HICKORY, N. C.	2.74	3.70	4.15
MOORESVILLE, N. C.	1.02	1.40	1.55
RALEIGH, N. C.	6.26	8.00	9.00
ROCK HILL, S. C.	.90	1.20	1.35
SALISBURY, N. C.	1.59	2.15	2.40
SENECA, S. C.	5.22	7.00	7.85
SHELBY, N. C.	1.91	2.55	2.90
SPARTANBURG, S. C.	2.70	3.60	4.05
STATESVILLE, N. C.	1.59	2.15	2.40
WINSTON-S'L'M, N. C.	3.00	4.00	4.50

To all other stations within 150 miles from Charlotte, on the same basis.

Also 10-trip, 20-trip and 30-trip low fare tickets, between stations 200 miles apart, good 6 months.

ASK AGENTS FOR PARTICULARS
CITY TICKET OFFICE

308 West Trade St. Phone Dial 2-3351



Dr. Henry B. Mulholland and Dr. J. Edwin Wood attended the meetings of the American Clinical and Climatological Association at Hot Springs, Va., on May 8th.

Dr. Rufus I. Cole, of the Rockefeller Institute of Medical Research in New York City, visited the Medical School on May 12th.

Dr. Lyndon Frederick Small, research associate at the University of Virginia, is acting as technical expert for the United States delegation en route to Geneva to attend a conference on the limitation of the manufacture of narcotic drugs. The University has been conducting the chemical research in the field of alkaloid chemistry at its Cobb Chemical Laboratory, in co-operation with the National Research Council and the Bureau of Social Hygiene, Inc., New York. Chemical studies of narcotic drugs have been carried on and investigation has been made of nonhabit-forming substitutes which may be used. The medical school of the University of Michigan is carrying out the psychological tests of the new chemical compounds under the direction of Dr. C. W. Edmunds, and Dr. N. B. Eddy.

DUKE

On April 30th Dr. Albert Anderson, of the State Hospital, Raleigh, talked to our students on the Mental Hygiene Movement in North Carolina.

On May 14th Dr. W. C. Davison spoke on the History of Nursing at the Nurses' Commencement at Rex Hospital, Raleigh, N. C.

Dr. J. William Beckmann, assistant professor of Psychiatry at Washington University, St. Louis, spent the month of May with us, giving lectures and clinics twice a week.

On May 16th Dr. W. R. Houston, of Atlanta, Ga., gave a clinic at the Duke Hospital on Gastric Neurosis.

The North Carolina Hospital Association held its annual meeting in Durham, May 19th, 20th and 21st.

On Wednesday during the spring quarter Dr. Frederic M. Hanes, of Winston-Salem, is giving clinics on Neurology at the Duke Hospital.

On May 21st the juniors and a number of the members of the staff of the medical school and hospital visited the State Hospital at Goldsboro and the Caswell Training School at Kinston.

On May 28th Mr. H. E. Miller, head of the Engineering Division of the State Board of

Health, talked to the medical students on Sanitation.

UNIVERSITY OF NORTH CAROLINA

On April 13th and 14th, Prof. A. N. Richards, head of the Department of Pharmacology of the University of Pennsylvania, delivered the annual Sigma Xi lectures. The first lecture was "The Function of the Glomerulus in the Frog's Kidney"; the second lecture, "The Function of the Tubule in the Frog's Kidney." The lectures were full of original investigation by Professor Richards, of a most convincing nature and presented in a most delightful form.

On May 14th, Dr. Wm. deB. MacNider, Kenan Professor of Pharmacology, University of North Carolina, delivered the annual address before the Alpha Omega Alpha Medical Fraternity, at the University of Louisville. This organization is in no sense a social fraternity, but has the same relationship in Medicine which Phi Beta Kappa has in the undergraduate school.

Dr. J. B. Bullitt, professor of Pathology, delivered the oration in Medicine before the Mississippi State Medical Association on May 12th, at Jackson. His subject was "State Medicine." Dr. Bullitt was professor of Anatomy and Pathology in the Medical School of the University of Mississippi, at Oxford, from 1903 to 1913.

Dr. Charles S. Mangum, professor of Anatomy, has completed his 35th year as a member of the faculty of the University's medical school. Dr. Richard H. Whitehead was in sole command of medical instruction from 1890 to 1896, and then he took Dr. Mangum in as his assistant.

Dr. W. P. Jacocks has given the University three Ceylonese books made of plain leaves. They contain sacred writing in the Sinhalese language. Dr. Jacocks is the International Health Board's director in Ceylon.

MEDICAL COLLEGE OF VIRGINIA

Members of seven classes of the college who are holding reunions during the commencement this year, May 30th-June 2nd, were presented to the alumni by Dr. Outland at the annual alumni dinner, at the Commonwealth Club June 1st. They included representatives of the classes of 1881, 1891, 1901, 1906, 1911, 1921 and 1926. Dr. W. H. Street,

retiring vice-president, presided.

Dr. J. M. Northington of Charlotte, N. C., was elected president of the General Alumni Association. Other new officers are Dr. A. O. James of Richmond, vice-president; Dr. H. L. Robinson of Charleston, W. Va., second vice-president; A. A. Arnold, pharmacist of Nassawadox, third vice-president; Miss Pansy Fletcher of Richmond, fourth vice-president. Dr. F. H. Beadles of Richmond is treasurer of the association and Dr. C. L. Outland is secretary.

An attendance cup for the oldest living graduate attending the dinner was presented to Dr. W. S. Hening of Richmond, member of the class of 1881.

President Sanger told of his plans for a great medical center which would occupy the grounds adjoining the present plant of the school. His talk was illustrated by lantern slides.

Dr. Blanton P. Seward of Roanoke was speaker at a meeting of the alumni association at McGuire Hall. He discussed contributions made to modern medicine by Southern physicians. Following the meeting a luncheon was served at Cabaniss Hall for the college trustees, the alumni, members of the faculty and this year's graduating class.

Final exercises of the 93rd session were held at the Mosque. Junius P. Fishburn of Roanoke, president of the Times-World Corporation, addressed the 176 graduates of the four schools making up the college.

The annual reception and dance for the graduates at the Commonwealth Club closed the commencement program.

Dr. Fred J. Wampler, professor of Preventive Medicine, who has been in India on leave during the academic year now closing, has sailed for this country, and will resume his duties at the college in September. Dr. Wampler went to India as medical representative on a commission which was to undertake a survey of health, social, economic and agricultural conditions in that country under the auspices of the Institute of Social and Religious Research, of New York City.

At a meeting of the N. C. alumni of the Medical College of Virginia, held in connection with the meeting of the State Medical Society, the following were elected officers: president, Dr. J. M. Northington, Charlotte;

vice-president, Dr. A. R. Hodge, Severn; secretary-treasurer, Dr. Z. P. Mitchell, Weldon.

GRIDIRON INCISION NOT BEST AS PREVENTIVE OF HERNIA

(Southam, A. H., Manchester University, British Medical Journal, February 14th)

Roberts states that the City of London Truss Society meets with 12 to 20 cases of this kind [hernia after appendix removal] a year following the gridiron incision, and that he has never seen a hernia which occurred after the rectus incision.

In three recent cases of right inguinal hernia following the muscle-splitting incision, where a second operation was undertaken for the radical cure of the hernia, the opportunity was taken to excise a portion of the ilioinguinal nerve as it lay in the inguinal canal. All three nerves showed partial degeneration.

In typical cases of acute appendicitis localized to the right iliac fossa and in young patients, Battle's para-rectal incision with inward displacement of the rectus muscle gives adequate exposure in such cases with the minimum disturbance of the inflamed parts; and as the nerves can be seen and readily avoided it rarely leads to any subsequent weakness of the abdominal wall. No case of inguinal hernia following the use of Battle's incision during a number of years has so far been encountered.

THE CRYING INFANT

(Pounders, C. M., Oklahoma City, in Journal of the Oklahoma State Medical Assn., May, 1931)

The commonest causes of persistent crying in early life are: 1. Hunger, 2. Gastro-intestinal discomfort, 3. Want of attention, and 4. Pain, illness or discomfort from other causes.

It is more frequent in the breast-fed than in the bottle-fed baby. It may begin during the first two or three days but is more apt to start sometime during the third week.

Spoiled babies learn to demand attention from fond parents and relatives.

Crying is the most common symptom of pain and discomfort from any source. Two conditions should always be kept in mind as possible causes—acute otitis media and pyelocystitis. Few conditions will produce so much discomfort as the former. Routine inspection of the ear-drums should be the rule in all febrile conditions.

A sick child should not be allowed to use up its energy by being restless, crying and constantly crawling around or climbing about the bed if a harmless sedative can be given. Many are sufficiently quieted by bromides. Aspirin is effective in many of the upper respiratory infections with fever. Small doses of Dover's powder give splendid results in the respiratory infections, especially where there is some earache. Proper doses of paregoric generally work when other things fail.

CHUCKLES

"Ma-a, Ma-a-a," M-a-n-g-a-n-e-s-e

(Mother love is due to manganese in her diet and its absence causes it to disappear, says Dr. Elmer V. McCollum of Johns Hopkins.—*News Item*.)

When a little baby's crooning
Makes mamma a little sick
And she loves to flog the kiddies
With a barrel stave or stick;
When an infant's cry of "Mother"
With her nature disagrees,
Don't be startled for it's nothing
But a lack of manganese.

When she takes to dragging junior
'Round the household by his hair
And delights in chasing Dolly
With a table leg or chair;
When she screams in abject terror
As her babe climbs on her knees
It's significant of nothing
But a need of manganese.

When the patter-patter-patter
Of the footsteps of a child
Makes a mother scream in anger
And seem savage-like and wild;
When she drives them from the indoors
And insists they sleep in trees,
It is just a symptom showing
She is off her manganese.

When she loves to starve her offspring
And stick needles through their ears,
When she feeds them only spinach
And cries "Brats" to all the dears;
When she tells them there's no Santa
And says "Bah!" to Christmas trees,
Bear in mind she's just a mother
Who's deprived of manganese.

—H. I. P., St. Louis Globe-Democrat.

Not 1-10th of 1 Per Cent

A census taker pushed his way through a crowd of children and began asking the lady of color questions.

"What's your husband's occupation?" he asked.

"He ain't got no occupation. He's dead. He passed away fo'teen yeahs ago, suh."

"Then who do all these children belong to?"

"Deys mine, suh."

"Why, I thought you said your husband was dead?"

"Sho! he is, but Ah ain't."—*Examiner*.

Benny was visiting his uncle on the farm for the first time and was very much interested in the procedure of milking.

"Now you know how uncle gets the milk, don't you?" his aunt asked.

"Sure," replied Benny, "he gives the cow some breakfast food, then a drink of water and then drains her crankcase."—*American Cookery*.

The Height of Embarrassment

Two eyes meeting through a keyhole.—*San Francisco Examiner*.

A Harvard professor has decided to leave his brain to his alma mater, possibly figuring that a good spare would do the undergraduate body no harm.—*Boston Herald*.

A colored man got his nerve together and took a flight in an airplane. As he climbed out of the ship on its return to the field, he turned to the pilot and said:

"Suh, Ah has to thank you fo' both dem rides."

"What are you talking about?" said the aviator. "You only had one."

"No, suh," returned the passenger. "Ah had two—mah fust an' mah last."—*San Francisco County Medical Society*.

The cross-examining lawyer asked the witness a question.

"I think—" he began.

"We don't care what you think; we want to know what you know," remarked the lawyer.

"Well, I may as well get off the stand, then," said the witness. "I can't talk without thinking. I'm no lawyer."—*San Francisco County Medical Society*.

"Have I time to say good-bye to my wife, conductor?"

"I don't know, sir; how long have you been married?"—*San Francisco County Medical Society*.

An' Sometimes Jus' Today's

Stranger (at village station)—Is this the 3:15 train?

Porter—Well, suh, we just calls it de evenin' train.

Minor Casualty

A cowpuncher ordered a steak at a restaurant. The waiter brought it in—rare—very rare. The puncher looked at it and demanded that it be returned to the kitchen and cooked.

"'Tis cooked," snapped the waiter.

"Cooked—hell," said our friend the puncher. "I've seen cows hurt worse than that get well."

Cancer can't be cured with face creams. Divorce evils can't be remedied with face powders. Passionate perfumes and wedded bliss aren't synonymous. Acrimonious advertising isn't the road to public belief. Pseudoscientific claims make a weak foundation for a lasting business.—*Printers Ink*.

The killing of a house-fly today may prevent a death from typhoid or entero-colitis this summer.

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., Supt.)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

*CHIEF of CLINIC, Emeritus**Obstetrics and Gynecology*

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS FANNIE AUSTIN, Nurse

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*CHARLES S. MOSS, M.D. *Surgeon*

O. J. MacLAUGHLIN, M.D.

*Ophthalmologist**Oto-Laryngologist*

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE

Pathologist

INTERNAL MEDICINE

JAMES M. NORTINGTON, M.D.

Diagnosis and Treatment

in

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park Arkansas

JAMIE W. DICKIE, B.S., M.D.

INTERNAL MEDICINE

DISEASES OF THE CHEST

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

Practice Limited to
ORTHOPEDIC SURGERY and FRACTURES

Fifteen West Seventh Street
105 W. Franklin Ave.

Charlotte
Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761
Burlington North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J
3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT
Telephones—

Office—4063
Hours—9 to 5 and by Appointment
219-23 Professional Bldg. Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.

Consultation 219 Professional Bldg.
Phone 4063

SURGICAL TECHNIQUE

POSITION WANTED: Well trained registered technician, 21, would like to have place in hospital or private laboratory. Can do general laboratory work including Wassermanns and tissues. Can also give Basal metabolism tests. What have you to offer? *References.* Address Miss C. L. S., care this journal.

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

*NERVOUS AND MENTAL DISEASE
ADDICTIONS*

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.
RAYMOND THOMPSON, M.D.
CLAUDE B. SQUIRES, M.D.
THEODORE M. DAVIS, M.D.

Prostatic Resection and Operative Cystoscopy:

THEODORE M. DAVIS, M.D.
CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology:

ROBERT H. LAFFERTY, M.D.
CLYDE C. PHILLIPS, M.D.

Proctology:

L. D. MCPHAIL, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKay and McKay***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.

Charlotte

Residence Phone 1858

Office Phone 1857

221 East Main Street

Spartanburg, S. C.

DR. W. B. LYLES

Practice limited to

UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., Director***PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM*

Colonial Apartments

Greer, S. C.

L. D. McPHAIL, M.D.**WYETT F. SIMPSON, M.D.***RECTAL DISEASES**GENITO-URINARY DISEASES*

Phone 1234

405-408 Professional Bldg. Charlotte

Hot Springs National Park, Arkansas

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building Charlotte

R. B. McKNIGHT, M.D.*SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30—5

Professional Building Charlotte

WM. MARVIN SCRUGGS, M.D., F.A.C.S.*SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building Charlotte

WILLIAM FRANCIS MARTIN, M.D.*GENERAL SURGERY**GYNECOLOGY*

Professional Building Charlotte

HAROLD GLASCOCK, M.D.*GENERAL SURGERY AND
DIAGNOSIS*

Office At

Mary Elizabeth Hospital

Raleigh, N. C.

Intracranial Pressure and Cerebral Symptoms Associated With Neuro-Oto-Ophthalmological Complications*

TEMPLE FAY, M.D., F.A.C.S., Philadelphia

Professor of Neurosurgery, Temple University School of Medicine

It is not the purpose of this paper to discuss the technic evolved or methods of procedure used at the present time to effect relief from many neuro-oto-ophthalmological complications. It is, however, of extreme importance to understand the mechanism and institute the proper treatment surrounding the many complications which secondarily involve the brain. The practice of otolaryngology and ophthalmology brings the specialist frequently into contact with serious symptoms of intracranial pressure. It would be best perhaps to give briefly, therefore, the salient factors to be considered when serious complications threaten the survival of the patient.

In a proper understanding of the mechanisms surrounding intracranial pressure and the prompt measures which may be instituted for its relief lies the possibility of saving many cases which would otherwise succumb.

The conditions which predispose to intracranial pressure and hence to unfavorable complications require a brief analysis.

The craniovertebral cavity is practically a "closed box" after the closure of the fontanel and union of the sutures. The volume within this craniovertebral cavity is fixed at any one particular time, and changes in the relationship of volume between the three fundamental components in this cavity determine the cerebral symptoms, and frequently the survival, of the patient.

The three components are:

- (A) Cerebrospinal fluid
- (B) Circulating arterial and venous blood
- (C) Nerve cells, supporting structures and the meningeovascular network.

As fluids are incompressible, it is evident that if the volume of spinal fluid be increased

by 1, 10, or 50 c.c. there must be a compensatory adjustment in the other two factors, either:

- (A) Blood is squeezed from the cranial cavity to compensate for this increase in fluid, or,
- (B) The failure of the arterial venous circulation to give way before the oncoming increase of spinal fluid will produce atrophy and destruction of the brain substance through the mechanism of pressure, and consequent limitation of blood supply and oxygen to the functioning cells.

Hydraulic pressure within the cranial cavity is a real condition, and hydraulic pressure in the form of a fluid cast represents the most perfectly applied type of surface pressure that we can create. When pressure is exerted on the surface or against the structures of the body, at any one point, such as a tight bandage or cast, pulsating pressure by an aneurysm, or pressure by tumor masses, an atrophy of the tissues impinged upon promptly and rapidly follows. Because the fixed pressure of this hydraulic cast as a pulsating membrane is without intermission during long periods of time, its effects are most devastating to the brain, and even short periods of high pressure will produce within a few days to a week astonishing cerebral atrophy.

Cerebrospinal fluid is produced in definite quantities within this closed system, each day. It must be absorbed to an equal amount, or over-accumulation and displacement of the other factors occur. The average amount of spinal fluid produced in the adult placed on a dry diet and receiving an exact 30 total ounces of fluid per day by mouth is 50 c.c.

*Address delivered by Invitation to the Section of Oto-laryngology, Medical Society of the State of North Carolina, Durham, April 22nd, 1931.

When larger quantities of fluid are ingested spinal fluid production increases. In the normal individual, the outlets for spinal fluid are adequate to care for and meet even excessive amounts of production, without disturbing the balance and relationships between the three components of the craniovertebral cavity. However, there is a wide variability existing among patients regarding the compensatory activity of the outlets, and this from a variety of causes. In the cases where the eliminating mechanism is disturbed or deficient, serious over-accumulations of fluid occur from apparently trivial conditions.

In this group alarming symptoms develop and fatal terminations occur from procedures which have otherwise been successful in a majority of cases. This is true throughout medicine and surgery, and is encountered in a wide variety of diseases. Unexplainable "poor risk" of one individual as compared to the majority of cases is a source of constant worry to the physician.

Unsuspected complications prove to be stupor, convulsions and respiratory failure. Those deaths attributable to cardiac and renal insufficiency are more or less anticipated, as the clinician has had the opportunity to study the patient prior to operative intervention, and knowingly he assumes the risk consequent upon these disturbances. He, however, unknowingly aids and abets the process of cerebral edema, stupor and respiratory failure, in his attempts to treat these known complications. The recent knowledge obtained from the clinical and investigative work at Temple University School of Medicine has established certain fundamental deviations from former accepted doctrines, the acceptance of which has led to a more rational and satisfactory solution of these problems.

A brief analysis of the present concepts will be given:—Oxygen must reach the brain at all times in order to maintain its function, especially those centers which we recognize as having to do with consciousness. Oxygen may be denied the necessary cells on the cortex or in the important ganglia in many ways, therefore for our purposes these will be divided into three groups of deficiencies.

(1) Low tension of oxygen in the surrounding atmosphere (rare). Obstructions in the nasopharyngeal air spaces—such as adenoids, enlarged tonsils, mucus, tracheal membranes, laryngeal paralysis, tracheal obstruction, for-

eign bodies, bronchi plugged with mucus, collapsed lung, drowned lung, hypostatic and true pneumonia—in their space-filling properties.

(2) Transportation of oxygen from the alveoli of the lung to the end point in the capillaries nourishing the brain cells is determined by a diffusion tension in the lungs; the number of red blood cells available as carriers; deficiency of the propulsive circulating mechanism, inadequate hemoglobin; patency of the arteries and arterioles (as to size of the lumen), and above all, oxygen dissociation in the periphery in terms of diastolic pressure.

Dissociation of oxygen occurs best between 60 and 40 mm. Hg. of pressure. Hence, if the diastolic pressure is below 40 mm. Hg. or remains in the periphery around 90 or 100 mm. Hg., insufficient oxygen reaches the functioning cells, thus denying the tissues their supply, irrespective of the efficiency of the heart and lungs and the available supply of oxygen to the red cells.

Death in terms of anoxemia lies in this variation of blood pressure relationships in the periphery. If oxygen has left the red cell before it reaches the functioning cortical groups, symptoms of dullness, stupor and respiratory failure will ensue, although the patient is apparently breathing normally; pulse and cardiac rates are satisfactory and the general appearance is one of adequate oxygen supply. Diastolic values above 100 in the periphery make it difficult for the oxygen to leave the red blood cell and hence the tissue cells likewise suffer from anoxemia. It makes no difference how much oxygen is placed on the red cell, if this carrier does not transport it to its intended tissue cell group, or fails to give it up upon arrival, the result will be oxygen starvation or anoxemia.

(3) Mechanical obstructions in the periphery, such as collapse of the capillaries due to insufficient arterial tension, vasomotor constriction with reduction of blood supply to the part; interstitial edema in terms of hydraulic pressure on the capillaries with consequent depletion of the necessary blood supply: intracellular edema with its subsequent change in physiological function of the cell, all contribute to the gradual failure of important cerebral centers.

The complications of the first group are self evident, and can be determined readily by

our clinical methods of examination, but it should always be borne in mind by the practitioner, as many times a real oxygen deficiency is present, though not suspected, in a partial obstruction of the trachea or bronchi; collapse of portions of the lung, or by hypostatic pneumonia as well as turgescence in the pulmonary circulation.

Those of group two can likewise be determined through the usual clinical methods of study, by routine blood count, careful charting of the systolic, diastolic and pulse pressures each hour, or four times a day, during the preoperative and postoperative observation of the patient.

In the third group lie the unrecognized menace and the most frequent cause of unexplained death.

The following symptoms must be seriously considered: Increase in intrathoracic pressure (cardiac decompensation) with increase in venous pressure on the right side of the heart, is transmitted immediately back along the jugulars to the venous mechanism of the brain. As there are no valves between the heart and brain, stasis along this route or compression so as to limit the venous return produces immediate cerebral venous stasis, over-filling of the venous channels within the skull, increase in blood volume, and if not adequately compensated for by a shift of spinal fluid volume, there results, not only increased pressure, but tissue edema similar to that seen in obstruction of important venous channels in the arms or legs. Thus, occlusion of the jugulars by pressure from an enlarged thymus gland becomes the most common cause of sudden death, known as "status lymphaticus." The recent studies at Temple University Hospital by Konzelmann, Chamberlain and Winkelman, have shown pathologically, roentgenographically and neuropathologically, that thymic death is due to intracranial pressure caused by complete closure of the jugular veins as they enter the bony ring of the thorax, from swelling of the thymic tissue lying adjacent to the veins and producing tremendous back-pressure and cerebral edema. Obstruction by foreign bodies in the neck and malignant metastasis, so that a chronic intracranial pressure is developed by jugular obstruction, may, upon the addition of ether, increase intracranial pressure to a lethal point.

The importance of jugular outlets at the

base of the skull has been pointed out by Swift, and it has been found that in from 20 to 30 per cent. of patients so far examined, profound venous anomalies occur, such as stenosis of one jugular foramen with compensatory enlargement of its fellow; bilateral stenosis, and the combination of these two factors. Usually the right lateral sinus and jugular are larger than the left, and more important in drainage of the longitudinal sinus and cortical venous return. It has been noted in several cases of unexplained death that the lateral sinus and jugular on one side, alone, drained the entire superior sinus and the cortex; whereas its fellow drained only the straight sinus and veins of Galen, little or no communication occurring at the torcular Herophili, as is generally supposed. Swift has advanced the view that the size and relationship of these important sinuses determine the early or late appearance of choked disk in cases of cerebellar and cerebellopontile angle tumors. The variations as to papilledema on the two sides depend on the drainage compensation in the relative size of these sinuses. In my opinion, this is the only logical theory so far presented to explain the rapid occurrence of choked disk from certain tumors situated in the posterior fossa. Where the lateral sinus is more important on one side than the other, a tumor situated in the cerebellum or cerebellopontile angle produces rapid increase of intracranial pressure by direct occlusion of the sinus, with consequent stasis of the circulation to the whole brain.

On the other hand, where the sinus is not important, tumors situated close to a relatively undeveloped venous system do not produce choked disk, or if at all, not until focal signs are well established and late in the course of the tumor growth. It is Swift's belief that the important drainage of the venous system at the base, especially through the inferior petrosal sinus, is responsible for the papilledema. There can be no question about the fact that intracranial pressure has been induced rapidly by closure of the more important lateral sinus and jugular bulb, whereas tumors of similar size, associated with less important lateral sinuses at the base, have produced little or no change in pressure or in papilledema. This has greatly assisted in explaining why one case may progress rapidly, with fulminating signs of pressure, while another may continue without symptoms.

With the otologist this becomes an important consideration, in that ligation or packing of the lateral sinus is usually attended with no serious consequences. On the other hand, prompt and distressing symptoms arise from such a procedure when venous anomalies are present, and the all important sinus is abruptly blocked. The variability lies in the importance, and size of the two sinuses, and it has been my experience to see on several occasions one lateral sinus draining directly the entire longitudinal sinus without communication at the torcular with its fellow. Jugular pressure produced in each case an immediate rise of intracranial pressure to 30 mm. Hg. on the side of the enlarged lateral sinus, whereas pressure on its fellow produced only 2 mm. Hg. of pressure in the manometer, thus indicating the tremendous importance that must be placed upon this consideration.

Dr. W. E. Chamberlain has developed a roentgenographic technic which clearly shows the jugular foramina and the relative importance of the lateral sinus. By this technic can be obtained a special view of the base of the skull, which should be taken as a precautionary measure, along with films of the mastoid, if exploration or sinus ligation is anticipated.

It is true that ligation of one jugular is frequently without serious consequences following thrombosis, and even both jugulars have been ligated and the patient survived. However, these thrombotic obliterations were not produced immediately, sufficient time having elapsed to permit collateral circulation through emissaries from the skull and the large venous plexus associated with the perivertebral drainage, thus permitting compensation after closure of the jugulars.

It is evident that if the important jugulars be closed abruptly by either ligation or packing a generalized cerebral edema will ensue, unless adequate compensation is forthcoming. Every facility for collateral circulation should be given to the patient. Above all, the head should be elevated and strict avoidance of tight or restricting bandages around the head should be observed. The venous collateral supply from the skull through the superficial veins is extensive and one can demonstrate readily the effect upon cerebral circulation from the use of a tight bandage which restricts these points of overflow.

BRAIN ABSCESS

In upper respiratory tract infections, head-

ache, torpor, and often vomiting, occur, and signs of cerebral irritation and pressure give rise to real alarm. Two factors must be considered in this problem:

- (1) What venous obstruction may be present to promote cerebral stasis and edema?
- (2) Has the acuity of the extracranial infection produced a marked increase of the arterial blood supply to the head?

Both of these factors are concerned with intracranial pressure, and in many upper respiratory infections the increase in blood supply required to the infected area finds no localization, because what is demanded through the common carotid for use in the field of the external carotid artery cannot be separated at the bifurcation from that which will also be delivered to the vascular field of the internal carotid. Hence, congestion and headache with a rise in intracranial pressure are frequently associated with upper respiratory infections. Associated with this is cerebral venous stasis and edema, due to pressure on the outlets for blood from the skull. The consequent diminution of oxygen to the functioning cells is followed by symptoms which may be more or less harmless, or profoundly harmful. An ice bag to the neck, rather than to the forehead, so as to help control the carotid flow, favoring venous circulation and return, is a fundamental consideration of treatment where these cerebral signs are present.

Where cerebral symptoms occur the physician's attention should also be concerned with diminishing spinal fluid volume, so as to permit reduction of intracranial pressure and aid general circulation, to permit the necessary space requirements demanded by the increased blood supply. As spinal punctures are not advisable in the presence of upper respiratory tract or mastoid infections, unless signs of meningitis are already present, the reduction of cerebrospinal fluid volume may be accomplished in a physiological manner. The patient's intake of fluid is curtailed to 20 total ounces per 24 hours, and should not exceed 30 total ounces, even though "toxemia" and hyperthermia are present. Dry diet, solid in character, should be given, in sufficient quantities to meet the temporary needs of the patient. Purgation may be utilized by giving magnesium sulphate. Rapid dehydration is enhanced by the injection of 50 c.c. of 50

per cent. glucose solution intravenously; 24 to 48 hours of such a routine usually clear the cerebral manifestations of edema.

Many of the intracranial symptoms found following mastoiditis, accessory air sinus disease and upper respiratory tract infection are due to extension of the infection into the cranial cavity. Frequently it has been carried in by an ill-advised operation and cerebral symptoms supervene.

The extension of infection within the cranial cavity is a serious problem which confronts us all. Extradural abscess should be carefully opened and drained, but too frequently injury to the dura is produced by the operation at the time of an exploration, especially if the abscess lies above the temporal bone in the middle fossa. It is most desirable to drain such a collection through the mastoid or through the original point of entry; if possible, avoid advancing through a new field.

In those infections which have reached the substance of the brain without a generalized meningeal involvement, it is far better to await the proper period for opening the abscess than to attempt it as soon as the diagnosis has been made. Brain abscesses are drainable only after they have been completely walled off and become liquefied. No relief will be obtained in opening the skull or attempting to drain an intramedullary abscess which has not reached the encapsulated stage. Such procedures only disseminate the infection, and frequently produce a meningitis which Nature had averted. The best results obtained today have been in those cases where long periods of time have been permitted to elapse before the abscess has been evacuated. Carefully watching the patient day-by-day and week-by-week, in the knowledge that a brain abscess is present, is indeed a trying procedure; but with the methods given for controlling intracranial pressure, and by noting the signs of general cerebral compression, such delay is the most frequently beneficial method of treatment.

When exploration is decided upon the abscess should be reached through as small an opening as possible, and it should be completely unroofed after sealing off the subarachnoid spaces about the intended area of evacuation. This can be accomplished by making the necessary trephine, opening the dura and placing gauze packing between the

dura and arachnoid around the edges of the wound, leaving the packing in place for 24 to 36 hours. Following this, adhesions of the arachnoid will help to prevent the spread and infection which the opening and draining of the abscess may invite.

Two fundamental principles are involved in the management of brain abscess: (1) Complete drainage of the source of infection should precede any attempt at opening the cranial cavity or draining of the brain abscess. (2) Delay to the point where the patient's symptoms indicate the final intracranial pressure picture similar to that seen in brain tumors.

These signs are not present in the early stages and must be distinguished from the signs of general cerebral edema. The early treatment should be directed toward dehydration and the prevention of cerebral edema. The interval between recognition and drainage should be characterized by palliative means, and when, in spite of dehydration, the focal and pressure signs indicate a definite localization of the process, or a terminal reappearance of cerebral edema, the operative procedure may be indicated and then undertaken.

Treatment of brain abscess in the past was not successful, as it was felt to be an emergency procedure. The brain is slow to react to infection within its substance, the walling off frequently takes weeks and there is slow necrosis of the cavity. The problem in similar to that of opening a carbuncle of the neck in the early stages of tissue inflammation. The results obtained from the standpoint of drainage at this stage are nil, and the possibility of dissemination of the infection greatly enhanced.

SUMMARY

In these considerations as they apply to the oto-laryngo-ophthalmologist lie some of their problems attended with serious complications. As indicated in the early part of this paper, the specific factors regarding technic or methods of management are too numerous to analyze. The general principles upon which serious secondary cerebral complications are based have been indicated, and too much stress cannot be placed upon the physician's definite knowledge of amounts of fluid ingested and eliminated by the patient prior to operation, so as to prevent the predisposition to cerebral edema. Thus by maintaining an in-

take and output record, with the daily weight of the patient, one has the information regarding fluid and storage. It is evident that if the patient is receiving 40 to 60 ounces of liquid, plus that in the diet, and passes 20 to 30 ounces through the kidneys, the balance must be accounted for. As 16 ounces are approximately one pound, the weight of the patient will determine whether or not water storage has occurred, or whether the skin, breath or bowels have compensated for the unreclaimed balance. Where toxinemias exist and temperature is increased, not only is the renal mechanism deficient in its fluid output but the dry skin indicates little loss of fluids from this usual avenue of evaporation. Under these conditions water storage frequently occurs and the physician who is not cognizant of this fact predisposes the patient to a cerebral edema by the forcing of fluids, thus precipitating unnecessary complications which are entirely foreign to the intended procedure.

General anesthesia, especially ether, temporarily increases intracranial pressure, and this, in the presence of venous obstruction due to thrombic enlargement, neck swellings, tumors, venous anomalies or other deficiencies, will place a greater load upon the cerebral circulation in one case than in another. Nature cannot usually compensate for a renal and cerebrospinal fluid deficiency combined, and thus serious complications may ensue.

With due regard to the factors surrounding blood pressure and *oxygen available to the brain cells*, utilizing the methods of dehydration and cerebrospinal fluid control, as have been indicated above, many patients presenting serious cerebral symptoms may be safely carried through crises which formerly promptly terminated in catastrophe brought on by following the almost traditional beliefs in the administration of large quantities of fluid.

That fluids in sufficient quantities are required is evident, but that quantities of fluid should be administered beyond the capacity of the patient to properly eliminate or balance these fluids, or properly distribute the fluid collections, particularly within the craniovertebral cavity, is beyond comprehension.

The intelligence of an individual would be seriously questioned if he permitted the inlet flow to his bath-tub to remain unchecked, in the presence of a deficient drainage system, as the consequent overflowing would not be

long in occurring. That such a condition applies equally to a human body is not hard to grasp, and thus those water faddists who advocate increasing the fluid intake "to wash away the poison", frequently wash away the patient also, by their oversight of the fact that water does not mysteriously disappear from the body, but has known avenues for elimination. When these are deficient, the intelligent physician will regulate the ingestion of fluids in such a way that Nature can continue her battle for the recovery of the patient without a double handicap.

In the middle ground of rational medicine lies the needed services of the physician to determine the proper values for fluid ingestion, with regard to what is now known regarding water metabolism, and the deficiencies which arise from many pathological conditions. The intelligent physician will not deny the patient fluids when they are needed because of some formula advocated for dehydration, neither will he overload his patient with fluids because of some fad regarding large fluid consumption.

Surrounding the proper balance of fluids in the individual during health and disease, lies one of the greatest problems in medicine today.

—3701 N. Broad Street.

AVERTIN AND ITS USE IN TETANUS

(From *Editorial New England Jour. of Med.*, April 9th)

Of the newer anesthetics the most prominent are amytal and avertin. Amytal has been used in the treatment of tetanus, but not very successfully. Avertin, however, a drug synthesized as a chemical curiosity in 1922, has found a more definite place in the treatment of this disease. As a general surgical anesthetic, at least 250,000 cases have been published and reports of its use in tetanus are now appearing in medical literature. Recently, of 11 cases noted in Germany, 7 recovered, and it would seem, although we are not yet in a position definitely to evaluate the worth of avertin in tetanus, that a valuable therapeutic aid has been given us.

A boy of 11 was seen in typical spasm. Avertin 100 mg. per kilo was given by rectum with immediate relaxation. At the same time, antitoxin was given both intraspinally and intravenously. Avertin was continued at the rate of 80 mg. per kilo, twice a day, for 10 days, and then once a day for a few days longer. During the administration there was no depression of either the blood-pressure or the rate of respiration. The patient made a normal convalescence and recovery was complete.

Indigestion*

HUBERT B. HAYWOOD, M.D., Raleigh, N. C.

Indigestion is a term which is used in a loose way to cover all forms of stomach disease. Strictly speaking it is non-digestion of food. The factors influencing digestion are so involved with the rest of the alimentary tract and bodily organs, that we may say that the stomach merely reflects, like a mirror, conditions which exist elsewhere in the body.

The study of indigestion, therefore, involves not only a consideration of both the normal and abnormal physiology of the stomach, but of the other organs of the body which, when diseased, act reflexly on the stomach.

The majority of digestive disorders are not the result of definite organic lesions, but of functional disturbances of either a motor, sensory, or secretory nature, and are termed dyspepsia. They can be rather roughly divided into three types: the primary, which in the main results from faulty habits of eating and drinking; the nervous, which is psychogenic; and the secondary, which is a reflex disturbance consequent to disease elsewhere. The term gastritis should probably be applied to the conditions in which there is a definite evidence of inflammatory change, and the term dyspepsia to the large group of disturbances in which there is no appreciable disease of the organ to account for the symptoms.

The part that the stomach plays in digestion is to serve as a container for food and drink, and by its motor and secretory activity to reduce it to a semifluid consistency suitable for the digestive activity of the enzymes contained in the intestinal juices and also those of the liver and pancreas. It warms and sterilizes food; it initiates protein digestion, and, due to relative motor inactivity for half an hour after taking food, continues the ptyalin's digestive activity on carbohydrate food. To carry on its functions adequately it must pass on its contents at a reasonable rate of speed.

Peristaltic waves travel from the anatomical dividing point in the stomach, the incisura

angularis, and sweep food onward. The waves travel faster than the food and accentuate the churning.

Functionally there are two parts of the stomach. The proximal end is composed, anatomically, of the fundus and half the body. This forms the gastric reservoir where the food is stored under a small amount of pressure. Food stimulation relaxes the cardia, and the food passes into the center of the stomach; this allows the ptyalin digestion to continue. In the distal half of the churn pepsin and hydrochloric acid are mixed with the food. The gastric juice is made to flow first by stimuli coming along the vagus nerves from the brain and later by food in the stomach. The stomach initiates digestion and the small intestine finishes the work. Fluidity is the factor most important in governing the departure rate of foods from the stomach. As soon as they are liquefied foods tend to move.

In the duodenum—which means 12 inches long—the gastric contents are mixed with bile and pancreatic juices. The jejunum—which means empty—comprises $\frac{2}{5}$ of the small intestine and is irritable and pushes food to the ileum. Eripsin in the intestines splits further the protein molecule. Food passes on due to the rhythmic swaying movements and the churning and rubbing action of the small intestine. The greater degree of irritability at the top than at the bottom coupled with the downhill force increases the peristaltic wave. Disease lowers the irritability and nervous stimuli can reverse the grade. The sphincter at the ileocecal valve prevents regurgitation and also too rapid emptying of the small intestine. In the lower ileum and in the cecum only are conditions favorable for bacterial absorption. The colon returns water to the body as its chief function, and due to the relatively slow peristalsis of this portion of the intestine the food mass is pushed on slowly here.

The ganglionated nerve plexuses are the myenteric, or plexus of Auerbach, which is found between the muscle coats and correlates

*Presented to the Section on Practice of Medicine, Medical Society of the State of North Carolina, meeting at Durham, April 20th, 21st and 22nd, 1931.

the activity of one section of the intestine with another; and Meissner's plexus, which is found between the muscle and mucous membrane and serves to regulate the secretory activity of one part of the mucous membrane with another; and Meissner's plexus, which is with Auerbach's plexus, to correlate the activity of the intestinal muscle in any one segment with the work it has to do.

Alvarez advances the interesting, even though unproven, theory in regard to auto-intoxication and constipation that, while there is a possibility of chemical and bacterial poisoning from an accumulated and constipated fecal mass in the rectum, in which the major portion of the bacteria are dead and from which portion of the intestine there is relatively little absorption, it is not a chemical process that causes the feeling of poisoning, but this is due to the pressure of the mass of fecal matter on the sensitive nerve endings of Auerbach's and Meissner's plexuses. A bowel movement is to an extent psychic and brings a feeling of relief, that a desired object has been accomplished. He states that most toxic absorption from the intestine is during periods of diarrhea and not during the periods of stagnation. However, he admits in his final conclusions that here may be personal idiosyncrasies, as tests have demonstrated that the rectum in some people is relatively insensitive to pressure.

A definite relationship exists between the blood reaction and the function of the glandular apparatus of the stomach even in the fasting state. The reaction of the gastric secretion is initiated reflexly and is continued chemically. It contains 0.4 to 0.5 per cent. of hydrochloric acid. After admixture with food and partial neutralization the percentage falls to about 0.2 which is the optimum of hydrogen-ion concentration for the action of pepsin. As the neutralization elements are used up, there is a tendency for the acid to rise. This it does until about $2\frac{1}{2}$ hours after a meal, when there is a drop in the free hydrochloric acid content. This has been shown to be due to the regurgitation of the alkaline contents of the duodenum. An excessive amount of hydrochloric acid used to be thought of as an indication of hypersecretion, but now it is interpreted as being more likely due to pyloric spasm or obstruction. Some

authorities (Goodhart and Bolton) do not consider the acid curve of primary importance, but consider the estimation of total chlorides as a truer indication of gastric secretion, for as the percentage of acid falls the percentage of neutral chloride increases. They conclude that the acid curves represent the progress of neutralization which, in turn, depend entirely on the relaxation of the pyloric sphincter at certain stages of digestion, permitting duodenal regurgitation.

Each individual has his own chloride point. Roughly it is 1/10th normal solution or about the same as the chloride strength of the plasma. The stomach will not be emptied until the chloride point has been reached. It appears then that one of the main functions of the stomach is to bring the food contents up to a certain salt strength or osmotic pressure which will be acceptable to the intestine. It has been shown that if food of less than the required osmotic value or chloride strength enters the intestine it is promptly rejected into the stomach once more, with the result that the acidity falls and the inorganic chloride curve rises. This then is the biological meaning of duodenal regurgitation: when the stomach contents are isotonic with the blood, they enter the intestine without stimulating their own rejection and the stomach is emptied.

It has been suggested that practically all dyspepsias can be divided into two main classes: *a*, those in which the reflux of duodenal contents is defective, the so-called hyperchlorhydric and duodenal ulcer type, and *b*, those in which the reflux is excessive, the so-called hypochlorhydric or eructative and flatulent type.

THE INTERPRETATION OF GASTRIC FUNCTION

The interpretation of gastric function can be satisfactorily studied by the fractional test meal which permits 1—extraction of the fasting residual contents of the stomach for examination, showing the secretory and motor activity of the stomach and permitting the search for pathologic products; 2—use of a simple test meal which leaves the stomach normally in two hours; 3—an estimation of the gastric secretion throughout the period of gastric digestion; 4—and an estimation of the evacuation time and motor activity of the stomach. Delayed digestion time is indicated

by a fasting residuum of more than 50 c.c. of gastric juice or 10 c.c. of food sediment in the 2-hour extraction.

The histamine test has been introduced to differentiate between a false and a true achylia gastrica. A profuse flow of gastric juice rich in hydrochloric acid and enzymes results from the injection of four minims of 1 to 1,000 histamine hydrochloride into a stomach. It brings no response in a true achylia.

In interpreting the types of indigestion, the history of the case is of primary importance, next follows the general physical examination, then the gastric analysis and laboratory examinations, and finally the x-ray and fluoroscopic investigations.

PRIMARY DYSPESIA

The fundamental cause of a primary dyspepsia is not an inherited or acquired instability of the nervous system, but such physical factors as dietetic errors, rapid and careless eating, poor mastication of food and poor choice of food and drink. The treatment is, of course, the elimination of faulty habits and the establishment of a healthy mode of living.

Alvarez, in speaking of nervous dyspepsia, quotes William James in saying "The Lord may forgive us our sins, but the nervous system never does." Medical terms and thoughts that were current several decades ago are scarcely heard today, so it is interesting to note that even with the advancement of accurate and scientific diagnosis that comes with the aid of the laboratory, the x-ray and surgical operations on the intestinal tract, nervous indigestion is still spoken of as an entity, even as it was in 1879 when it was described by W. C. Leube. He pictured it as purely a neurosis. Normally, according to Leube, a large majority of individuals experience some discomfort after a more or less heavy meal, usually in the form of epigastric fullness, cerebral congestion, lassitude, irritability, fatigue and sleepiness. He ascribed this to a direct mechanical irritation affecting the gastric nerves as the act of digestion begins.

It is when these physiologic manifestations of digestion are exaggerated without being referable to any particular type of nutrition that they become a fruitful source of complaint and finally develop a chronic condition, due, primarily, to an abnormal reaction of the gastric nerves, and secondarily to the entire

nervous system. The cause of this pathologic reaction, he maintained, resided in the gastric nerves and in them only. Ewald claimed that nervous indigestion was not an independent circumscribed disease, but a symptom-complex partially based on hysteria or neurasthenia. While admitting the absence of anatomical changes, he nevertheless believed the gastrointestinal function was abnormal. In recent times opinions seem to concur that motor and secretory activity of the stomach are disturbed and may present variations in one and the same individual. Osler describes nervous indigestion as being either hereditary or brought on by indiscretion.

Thomas R. Brown describes gastric neuroses as constituting a very large proportion of gastric disturbances. He describes the cause as an acquired or congenital irritability of the nervous system, an abnormal psyche, and a hyperesthesia or paresthesia of the portions of the vagi or sympathetic which supply the stomach. He describes a polysymptomatic type which shows signs of hyperexcitability of the other branches of the vagus and sympathetic that supply the heart and intestines. Frequently the gastric syndrome predominates so distinctly as to justify independent consideration, but the underlying psychic instability must always be regarded as of fundamental importance in therapy.

Gastric neuroses are divided frequently into the hypersthenic and the hyposthenic types. The former is characterized by hypersecretion, hyperperistalsis and hypersensitivity, and the latter by sluggish motor and secretory activity. For the sake of convenience they may be classed as sensory neuroses which include 1—bulimia or hyperorexia, an increased sense of hunger, 2—anorexia or loss of appetite, 3—hyperesthesia of the gastric mucous membrane, and 4—gastralgia or cardialgia which is rarely of nervous origin, but is usually organic. Motor neuroses include eructations of swallowed air, regurgitation of food without nausea and vomiting, and hyperkinesis or peristaltic unrest of the stomach which is usually due to a pylorospasm of organic nature. Secretory neuroses are very complex in their make-up, and it is necessary to correlate all the data obtained in your examination to correctly interpret your findings.

More accurate methods of diagnosis of late have led to the conclusion that a large propor-

tion of the cases of hypersecretion or hyperacidity are of reflex origin. Pyrosis, fullness and discomfort 1 to 3 hours after eating and acid eructations are the usual symptoms. The diagnosis depends on a free acid of 40 or over and a total acidity between 70 and 110 and the absence of all organic disease. Hyposecretion is in a sense a depressive neurosis which may be periodic or constant. There is a frequent association with mental fatigue, persistent worry and strain, especially in people of an unstable nervous habit. The absence of a wasting disease, as cancer, tuberculosis, or anemia, must have been proven before a diagnosis can be established. The symptoms are vague. There is a loss of appetite, a fullness after eating, absence of pain, eructations of gas, sometimes constipation and sometimes diarrhea especially with an achylia.

SECONDARY DYSPEPSIA

It should be borne in mind that every acute and chronic disease is accompanied with some gastric symptoms which may be transient or functional, or persistent with changes that become organic.

Gall-bladder disease, with or without stones, appears to be the commonest type of organic disease of the intestinal tract that causes secondary dyspeptic symptoms. Bloating and belching in middle age immediately after eating cause the medical man to focus his thoughts on the gall-bladder. Peptic ulcer is the next commonest organic disease of the intestinal tract with dyspeptic symptoms. It is more frequent in males and is usually in the duodenum. It is accompanied with gas and a feeling of pain or distress in the pit of the stomach. The pain has a periodicity about it and often comes after the middle of the night. In the early stages the pain is relieved by alkalis. Pain that disturbs the sleep is usually organic. The symptoms of chronic appendicitis are sometimes so predominant that the underlying cause escapes detection.

Cancer of the stomach must be looked for in every man and woman who, having reached middle life with a perfect digestion, suddenly finds it beginning to fail. Cancer of the colon should be thought of immediately whenever a man or woman of over 30 begins to have trouble in securing a bowel movement, since cancer may grow slowly and be asymptomatic

for months until the lumen of the intestine is obstructed. Disturbances of the mechanical functions of the intestinal tract cause the largest number of the symptoms. As A. E. Taylor once wrote, "We have duplicate plants for the chemical digestion of food, but only one tube for the transport of food and residue."

Intestinal parasites are a frequent cause of digestive disturbance, particularly the amebae, in certain sections of our country. Circulatory disease is frequently first shown by gastric fullness and discomfort after meals. Arteriosclerosis sometimes shows itself first as a purely gastric disorder with an atonic dyspepsia and epigastric pain. One of the earliest symptoms of tuberculosis is a functional dyspepsia. In both hypo- and hyper-thyroidism achylia usually appears. In the former it is associated with obstinate constipation and in the latter with diarrhea. The achylia and other gastric symptoms of pernicious anemia are evidences of the organic nature of the accompanying disease of the stomach. Renal disease, especially in the middle aged person, should be thought of as a cause of dyspepsia. Diseases of the central nervous system and the gastric crises of tabes might readily pass unrecognized as a cause of dyspeptic symptoms. The list can be multiplied when we consider the symptoms of organic disease, but it is beyond the scope of a paper of this type.

In conclusion, I may say that an accurate knowledge of the digestive symptoms of a functional neurosis of the stomach and those of organic disease, with the ability to differentiate between the two and wisdom in correlating all of the discovered facts will lead you to a reasonable hope of aiding your patient.

Sir William Osler in his selected essays says that to a medical audience his favorite quotation is:

"Knowledge and wisdom, far from being one, Have oftimes no connection, knowledge dwells In heads replete with thoughts of other men; Wisdom in minds attentive to their own. Knowledge is proud that he has learned so much; Wisdom is humble that he knows no more."

References

- BURNETT, F. L.: *Am. Jr. Med. Sc.*, 1923, CLXVI.
- THOMAS, J. R.: *Atl. Med. Jr.*, Aug., 1924.
- ALVAREZ, W. C.: *So. Med. Jr.*, Jan., 1931, *J. A. M. A.*, Aug. 6, 1931.

BULLMORE, H. H.: *Med. Jr. Australia*, Dec., 1926.
 BROWN, T. R.: *Cecil's Medicine*.
 PIERSON, G. M.: *Tice's Practice of Medicine*.
 BARKER, L. F.: *Sajous' Practical Medicine*.
 McDOWELL: *Clinical Physiology. Year Book of Medicine*, 1930.

INDISPENSABLE USES OF NARCOTICS: ABUSE OF NARCOTICS

Narcotics act by freeing the mind more or less from the thralldom of the senses, and therein lies their value as well as their danger. It is only by patients forswearing self-medication and by physicians adopting certain definite rules regarding their employment that the abuse of narcotics can be guarded against. Thus, narcotics should never be employed to remove a diagnostically indispensable symptom. As Cushing says, it should not be necessary to make the diagnosis at the expense of exhausting pain. Nevertheless, when symptoms are removed by a narcotic, the physician assumes the responsibility of supplying other guiding phenomena. The free-and-easy use of the morphine hypodermic to kill all kinds of pain and then forget about the case cannot be condemned too strongly. The danger is that the giving of narcotics may lead to neglect of the really important treatment. Next to the giving of cathartics, nothing has led to so many deaths from acute appendicitis as the giving of narcotics. People must be made to realize that, when micro-organisms of disease have invaded the body to the extent of producing fever, a struggle for supremacy is on: the fittest will survive, either man or microbe. Fever is equivalent to a general mobilization of available military forces in an invaded country. Suppress the fever and its symptoms, cancel the call to mobilization in the face of such invasion, and the enemy invades triumphantly and disastrously. A useful reaction of the body to disease must never be abolished by narcotics. Thus, cough is in most instances an important means of effecting drainage from the bronchial tree. Stop the cough and the micro-organism-laden discharge, instead of being expectorated and thereby rendered harmless, stagnates, becomes more and more poisonous. The diarrheal discharges from the bowel carry away quantities of material that becomes highly toxic when retained, not only to the system at large but also to the bowel wall itself: thus a simple diarrhea may become converted into a catarrhal or even an ulcerative enterocolitis; and, instead of days, it may take the patient weeks and months to get well.

Formation of habit should be the ever-present specter to inspire fear of prescribing narcotics in chronic or recurring ailments, unless there are malignant conditions or limited tenure of life to make the habit relatively unobjectionable.

Especially should physicians, dentists, nurses and pharmacists make it their inviolable rule never to prescribe narcotics for themselves. Some narcotics,

as opiates and alcohol, are intrinsically habit producing. But all narcotics are liable to be habit forming, by reason of their very efficiency in relieving symptoms and their inability really to cure any disease. Whenever, therefore, a narcotic is employed, it should merely be as an adjunct to the real curative treatment. It is only when cure is impossible that the narcotic habit may be a lesser evil than unrelieved suffering. In any case, an extensive range of knowledge of the many available narcotics should permit a choice of the least objectionable and yet most efficient agent for the particular patient to be relieved; and opiates should be appealed to only as a means of last resort.—*Jour. A. M. A.*, May 10th.

TWO OPERATING TEAMS ON ONE PATIENT

(Davis, J. S., Baltimore, *Annals of Surgery*, April, 1931)

Many years ago while I was resident surgeon at the Union Memorial Hospital, a patient was admitted in Doctor Finney's service with bilateral gangrene of the feet. His condition was critical and immediate amputations were imperative, so in order to save time, Doctor Finney asked me to remove one foot while he amputated the other. From this incident, with its evident advantage to the patient, developed the regular use of the method in my work.

Where two operative procedures which may be done at the same time on different parts of the body are necessary they should be done simultaneously.

For a number of years I have planned in advance for two operators and two teams on all cases where conditions are favorable and find it a great saving in operating time and much to the benefit of the patient. The procedure is particularly helpful in reconstructive work.

FOR UNIVERSAL FINGERPRINTING

(Editorial *The Medico-Legal Journal*, March-April, 1931)

Universal fingerprinting is the desideratum.

It is true that at present only suspects and convicted criminals must undergo this process; but if universal fingerprinting were adopted, not only would it be much easier for the police to curb crime, but much doubt in the identification of lost children or of persons suffering with amnesia, of unconscious injured persons and of dead bodies would be eliminated.

To be fingerprinted is no more shameful than to have one's photograph taken. The fact that the police authorities take the photograph of every convicted criminal does not prevent others from having their photograph taken. . . .

It were well that a little propaganda for universal fingerprinting were started. It might accomplish much good and could not harm any law-abiding person.

Let us all be fingerprinted.

Relationship Between Medicine and Dentistry*

H. O. LINEBERGER, D.D.S., Raleigh

Mr. President, members of the North Carolina Medical Society: The members of the North Carolina Dental Society would have me bring greetings and to assure you of our appreciation for your kind invitation to meet with you and to participate in your program. It is our wish that the 78th Annual Meeting will go down in history as one of the best you have ever had.

In reviewing the relationship of the medical and dental professions in North Carolina, we find there are many things which have brought the activities of our professions closer together. In a very brief way, I shall touch on a few of the more salient causes and also bring to your attention some of the very valuable results already accomplished.

In a paper, "Is There a Need for a Closer Co-operation Between the Physician and Dentist?", read before this Society last year at Pinehurst, Dr. J. Martin Fleming, a member of the North Carolina Dental Society, very ably discussed many of the early problems of our professions and very clearly answered in the affirmative the question asked in the title of his paper. It is, however, necessary that I review some of the points brought out by him, in order that I may more clearly show various stages in our professional life which have been more or less the causes for our friendlier relationship.

In the earlier days of our profession, a dentist was primarily a mechanic. He usually chose dentistry because he had a certain mechanical turn or tendency in that line. The colleges spent a greater part of their time in teaching their students operative and prosthetic technic, giving very little attention to the health service. The dental graduate found himself entirely interested in the task of relieving local pain and restoring lost tooth structure.

The operation of extracting teeth was considered an exceedingly ordinary procedure and was performed by all physicians, drug clerks, landlords or anyone who happened to possess a rusty pair of forceps. In fact, the only patients who sought the service of a licensed dentist were usually those of the higher class who felt they could afford to have their teeth

filled with gold or possibly a new set of teeth made primarily for appearance.

It was perfectly natural that a profession trained to restore lost tooth structure should do everything in its power to treat and save every tooth, not once thinking of the various systemic involvements we were possibly causing. As the demand for dental service increased, many young men sought a dental education. This flooded the dental colleges and in many cases caused the establishing of schools which were of low standards. This period of changes in the professional educational system gave birth from the medical side to such professions as osteopathy and the chiropractor. To our profession it gave the advertising dental parlors. While in this more or less confused state of educational standards, the Carnegie Foundation came to the rescue and made their famous survey of both medical and dental schools. Rather than be exposed, many schools closed their doors and many others were forced to improve their standards. This standardization of education gave to both professions a higher and much needed self-respect and also created in each a higher respect for the other.

In the professions, as in most every other walk of life, necessity brings about many changes or reform which would otherwise be very slowly realized. There was no great reformer who can be given credit for bringing about a closer coöperation between the physician and the dentist; on the other hand, when it was found to be an act of extreme expediency and a great improvement in the class of professional service which we might render the patient, we see it gradually being realized.

The coming of the x-ray did much to reveal many hidden abnormalities. It was the use

*Presented by Invitation to the Medical Society of the State of North Carolina, meeting at Durham, April 20th, 21st and 22nd, 1931.

of this machine which brought to many dentists the sad realization that the restoration he had thought perfect was a most dangerous focus of infection.

Soon after the x-ray became generally used in the field of diagnosis we find scientific men in both professions studying, in detail, infection in its various ramifications of the body. It was the knowledge of this definite work which was being carried on in the various scientific laboratories which led Dr. Charles Mayo to make the statement, in substance, that the next great advancement in health service should come from the dentist. All are familiar with just what did happen and how it has made our professions more dependent on each other.

Many of the more enthusiastic members of both professions went in for a 100 per cent removal of all possible foci of infection, but as usual, it was the rational and conservative minded who brought us to our more constructive thinking selves. However, it was during this period that we were brought into closer coöperation with each other. Today we find ourselves at that point where no reputable physician or dentist would dare treat a case with any complications without the aid and service of the other. No hospital or diagnostic clinic would think of passing on a patient's true condition without a definite report from a dental surgeon of known ability and unquestioned reputation.

In North Carolina, the great work our State Board of Health and other State agencies are doing along the line of corrective, preventative and educational medicine, combined with the various publicity agents, has created a health-minded people. They are not only consulting us individually but to a great degree measuring our professional ability by our willingness to consult with others in the associated fields.

Getting more specific as to the friendly relations already established in our State, I would call your attention to many joint medical and dental societies already established in counties like Wayne, Pitt, Guilford and others, with occasional joint meetings in practically every county and city in the State.

A few years ago, the officers of both the State Medical and the State Dental Societies sought to arrange a joint meeting of the two societies, and with your permission, I am go-

ing to read the report our committee made to the State Dental Society meeting in Asheville last year.

"The first definite suggestion for a joint meeting of the two societies came out of a conference of Dr. L. A. Crowell, president of the North Carolina Medical Society, and Dr. I. R. Self, president of the North Carolina Dental Society, at their home town of Lincolnton. Both presidents were anxious for a better fraternal relationship between the two societies, and immediately set about to arrange for such a meeting.

The Councilors of the North Carolina Medical Society met in Raleigh in May, 1929, at which time the suggestion of the two presidents relative to the joint meeting was brought up for discussion. At this meeting the North Carolina Dental Society was officially represented by Dr. H. O. Lineberger. After some discussion the Councilors voted to invite the members of the North Carolina Dental Society to meet in joint session with the North Carolina Medical Society at Pinehurst in April, 1930, and instructed the representatives of the North Carolina Dental Society to transmit such an invitation to the meeting of the North Carolina Dental Society at Wrightsville Beach, held in June, 1929.

The invitation was extended to the North Carolina Dental Society but on the same date which the invitation from the Medical Society was presented, a lengthy letter was received from Mr. Tuft, manager of the Carolina Hotel at Pinehurst, stating that it would be impossible to entertain both societies at Pinehurst in April. This letter precluded our acceptance of the invitation of the Medical Society until further negotiations could be had.

The incoming president was instructed to name a committee to confer with a similar committee from the North Carolina Medical Society relative to arranging a joint meeting. A committee composed of Drs. J. Martin Fleming, J. S. Spurgeon and H. O. Lineberger, chairman, was named.

In a letter, under date of June 19th, Dr. L. B. McBrayer, secretary of the North Carolina Medical Society, was duly notified of the action of the North Carolina Dental Society. The president of the Medical Society was notified of our action by their secretary. On December 31st, a copy of Dr. McBrayer's letter addressed to Drs. Parrott, Burrus and

Murphy, of the North Carolina Medical Society, was received. To quote one paragraph: 'The purpose of these two committees as suggested by the State Dental Society, is to take under consideration the matter of holding a joint meeting of the State Dental Society and the State Medical Society, the idea suggested by some of the dentists being that the meetings be held in the same town, with one-half day of the State Medical Society program to be devoted to matters that would be of mutual interest and to be attended by all dentists, and perhaps one-half day session of the State Dental Society to be likewise planned and held, to which all fellows of the State Medical Society would be admitted.'

In a letter dated January 2nd, addressed to Drs. H. O. Lineberger, J. T. Burrus and J. G. Murphy, Dr. James M. Parrott suggested that Dr. Lineberger call a meeting of the joint committee. After conferring with all members of the joint committee, a meeting was called January 15th at the Sir Walter Hotel, Raleigh. All members of the committee were present and all phases of the joint meeting gone into and the following action taken:

First: That the North Carolina Medical Society invite the North Carolina Dental Society to send representatives to appear on their program (two papers) and that a delegation of not less than 50 dentists visit the meeting of the North Carolina Medical Society meeting at Pinehurst in April.

Second: That the North Carolina Dental Society invite the North Carolina Medical Society to send representatives to appear on our program (two papers) and a delegation of 50 members of the North Carolina Medical Society to the state meeting in Asheville.

It was also recommended that a permanent Liaison Committee from each society be appointed.

In other words, if the committees from the two societies have interpreted the sentiments of the two societies correctly, a closer relationship is desired and for that reason we felt that an exchange of essayists and a visiting delegation from one society to the other would stimulate interest in a joint meeting.

The official invitation as recommended, was issued by the officers of the two Societies.

Dr. J. Martin Fleming and Dr. J. S. Betts were named to present papers before the North Carolina Medical Society. Both pa-

pers were excellently written and ably presented and made a profound impression on the members of the Medical Society. Forty fraternal delegates attended the medical meeting at Pinehurst on Tuesday, April 29th.

Your committee wishes to strongly recommend a permanent Liaison Committee with the North Carolina Medical Society and an occasional exchange of fraternal delegates and essayists.

We wish to thank Drs. Parrott, Murphy and Burrus for the genteel and coöperative attitude manifested in their deliberations with our committee looking forward to a closer relationship between the two Societies. The committee wishes further to thank Dr. H. H. Briggs and Dr. Standing Norman for the able papers they have presented and every fraternal delegate from the Medical Society for the sacrifice in time they have made in visiting our meeting and we hope that in the near future the plan may be repeated."

A direct result of our coöperative efforts was manifest in the recent Legislature, where members of the medical and dental professions were found fighting shoulder to shoulder against the abolition of certain boards and for other constructive measures. The members of the dental profession are especially grateful to Drs. Burrus, Hardy, Killian, Ruffin, DeHart, Long and Rogers, members of the Legislature and who aided in the passage of the Burrus-Johnson Bill, which placed a dentist on each County Board of Health. Dr. Burrus was a co-sponsor of the bill.

We are grateful to all the members of the North Carolina Medical Society for your splendid coöperative spirit and trust that our understanding of each other will grow as the time passes, to the end that it will be of mutual helpfulness and a very beneficial and lasting service to our patients and to the public.

—804 Professional Building.

SPECTACLES AND THEIR ORIGIN

(Medical Press and Circular, Sept. 18th, 1929 via Medical Journal and Record, May 20th, 1931)

The identity of the actual inventor of spectacles is uncertain, but there are grounds for attributing priority to Salvina d'Armato, the inscription on whose tomb at Florence, which is dated 1317, describes him as the inventor. Roger Bacon and others are similarly credited with the honor, and there is doubt whether spectacles were known to the ancient civilizations of the East.

The Importance of Rest in the Treatment of Tuberculosis*

P. P. McCain, M.D., Sanatorium, N. C.

Among the countless remedies advocated as a cure for tuberculosis, rest stands out as the one most essential, in fact, we may almost say the one essential. The failure of the general public and of a large portion of the medical profession to fully appreciate the necessity of rest is largely responsible for the fact that The Great White Plague still numbers its victims by the thousands and the tens of thousands. Its ravages will continue until we understand fully that it is not climate, not raw eggs or the overstuffing with any special diet, not sleeping porches, not medicines or serums, but *rest* which is essential for its control—rest of body and of mind, rest for a period of months or longer, at first complete rest in bed and later bed rest combined with chair rest and mild exercise most carefully prescribed by a physician who fully appreciates the damage which can be caused by too much exertion.

A reasonably good diet and a reasonable amount of fresh air are very helpful also, but so they are for those who are sick with other diseases and even for the maintenance of health in those who are well. Raw eggs tend to upset the digestion. Overstuffing is often hurtful. Special climates where the patient can be comfortable are pleasant, but not essential. Almost equally good results are obtained in well-run sanatoria where rest is enforced, regardless of their location, whether north or south, east or west, in the mountains or by the sea. Sanatoria are needful mainly because they give patients a chance to rest and teach them how to take the rest cure.

The benefit to be derived from rest in active tuberculosis, to state it briefly, is brought about by a reduction of the rate and force of the heart and of the rate and depth of the respiration, thus limiting metabolism and reducing to a minimum the absorption into the circulation of the toxins from the tuberculous focus. The more complete the rest both of body and of mind the less will the absorption and the dissemination of these toxins be.

How complete and how prolonged the rest should be varies with the extent and the activity of the disease and with the resistance of the individual patient. Those with extensive or very active disease and those with serious complications should for an indefinite time have absolute bed rest—bed baths, the bed pan, meals in bed, very little company, and should be allowed to do little or no reading or writing. Patients with moderate disease and mild symptoms should probably spend on an average from 4 to 6 months in bed, being allowed to go to a nearby bath room and probably to sit up in bed to eat their meals. After 4 to 6 months it is usually safe for such patients as have been free of active symptoms for several weeks and whose lesions are not spreading to begin sitting up some 20 or 30 minutes a day. After a week or two their time may be gradually increased provided no unfavorable results appear; so that at the end of 2 or 3 months they are sitting up all day with the exception of 1½ to 2 hours of bed rest in the morning and at least 2 hours in the afternoon.

It is usually safe for patients after they have been able to be out of bed all day without untoward results to begin mild exercise, such as 10 minutes slow walking daily. This may be gradually increased until at the end of 4 to 6 months they are taking from ½ to 1 hour's walk twice daily.

Unfortunately few early-stage, or minimal, cases come under the care of the physician. But even the earliest cases, if recently accompanied with active symptoms, should have 1- or 2-months bed rest. In addition to going to the bath room it is probably also safe, in minimal cases, for the patients to go to the dining room in their bath robes or dressing gowns. They should spend another month gradually getting out of bed and another period of 3 or 4 months gradually increasing their exercise to the equivalent of about an hour's walk twice daily.

In determining how fast patients may get

*Selected for presentation to the General Sessions of the Medical Society of the State of North Carolina meeting at Durham, April 20th, 21st and 22nd, 1931.

out of bed or increase their exercise, physicians should be guided, not by symptoms alone or even always by symptoms and physical signs alone. It is safer to have the additional advantage of x-ray films made at intervals of 3 or 4 months. Any increase in the extent of severity of the lesion is an indication, of course, for a return to bed rest.

Naturally, it is exceedingly difficult to get the average patient to carry out such a program of rest as here outlined. The nature of the disease makes it difficult. Under bed rest active symptoms in favorable cases of tuberculosis disappear rather rapidly: fever subsides, cough and expectoration diminish or disappear, the appetite and digestion become normal and the weight is regained in a few weeks. The patient looks and feels so perfectly well that he thinks the doctor has made a mistake in saying that he had tuberculosis.

On the contrary, the lung lesion heals exceedingly slowly. Even under the most favorable treatment, it is months before any material improvement in the lung can be expected. Even physical signs change slowly for the better, and it is rare for x-ray films to show much improvement in less than 5 or 6 months.

This difficulty of getting the patient to take the rest cure inherent in the disease itself is made more real in most patients with tuberculosis by reason of their economic condition. It is natural for the bread winner of the family or the mother with several small children to feel that it is necessary to carry on so long as possible. They think they cannot afford to rest for 6 months or a year. As a matter of fact, of all people, the poor can least afford not to take the rest cure as soon as their disease is discovered. It is the best possible investment which they can make. It will mean the saving of their lives and frequently the restoration of their earning or working capacity. On the other hand, if they fail to rest, they will in a relatively short time not only become total invalids, but will also, by superinfection, endanger the lives of all the members of their families.

It will require the utmost skill and patience on the part of the physician to secure the full coöperation of the patient in taking the rest cure. It will tax his ingenuity to get the patient to act as a sick man over a period of months when he feels and looks so well.

Frankness, insistence on strict compliance with instructions, sympathy and the ability to inspire hope are essentials for the successful physician. Whether or not a patient should be sent to a sanatorium depends on the individual case. Most patients should, because their home conditions make the rest cure almost impossible and because they also need the education that comes from association with other tuberculous patients. Oftentimes it is much easier for a patient to take the cure at home when he is confined to bed than when he is able to be up a part of the time. Frequently we advise patients who cannot remain in the sanatorium as long as they should to go home for their necessary period of bed rest and to return to the sanatorium for the months during which they will be gradually getting out of bed and increasing their exercise.

Unfortunately most patients cannot afford to go to private sanatoria, and most public sanatoria are so crowded that applicants have a long period of waiting before they can be admitted. Not infrequently favorable cases at the time of their application reach the hopeless stage while waiting to get in, simply because they will not stay in bed.

The value of rest in tuberculosis is strikingly illustrated in the various methods of applying rest locally to tuberculous processes. The advantage of putting the tuberculous bone or joint at rest by applying a plaster cast is familiar to all. Tuberculous laryngitis used to be considered such a serious complication as to make the case almost hopeless. It is now known that the vast majority of reasonably early lesions of the larynx will entirely heal if the patients will only refrain from using their voices, and usually if they will only speak in a soft whisper. These lesions heal slowly, of course, requiring many months, but nevertheless, surely.

The most notable advance in the therapy of tuberculosis in our generation has been the development of pneumothorax treatment, which is only a method of putting the lung most diseased at rest, by compressing it with air. All moderately and far advanced cases of unilateral, or largely unilateral, tuberculosis which do not respond readily to the routine rest treatment should have the benefit of this method of putting the lung at rest. In properly selected cases the results obtained are

almost constantly good and frequently they are spectacular. Toxic symptoms usually disappear rapidly, cough and expectoration diminish or disappear and frequently sputum which was loaded with tubercle bacilli will become negative. Unless adhesions prevent, cavities are almost always closed.

Many patients who need pneumothorax treatment, however, can't take it because pleural adhesions prevent the collapse of the lung. Quite a number of such cases will be benefited by lying practically all the time on the side of the diseased lung, thus giving it partial rest while the good lung does most of the work of breathing. Shot bags and special chest splints or binders are sometimes used for the same purpose. Another great advance in recent years has been the development of surgical methods for effecting the collapse of the lung in such cases.

Phrenicectomy, or phrenic evulsion, the removal of a portion of the phrenic nerve, causes a paralysis of the diaphragm on the side operated upon and thus brings about a partial compression and partial rest to the most affected lung. Cavities are sometimes closed, sputum is lessened and not infrequently becomes negative. The results are not usually as good as in pneumothorax, but the improvement is frequently very definite. It is a simple procedure in the hands of a skilled surgeon and should be used in patients who cannot take pneumothorax. This operation is often also used in conjunction with pneumothorax or other surgical procedures such as intercostal neurectomy and thoracoplasty.

Thoracoplasty is a much more extensive operation consisting of the removal of the posterior portion of each of the upper 11 ribs. The operation should not be used except in cases in which the results from pneumothorax and phrenicectomy have been unsatisfactory and in those in which the contralateral lung is almost entirely normal. Its field is therefore much more limited, but in properly selected cases the results are remarkable. Many patients, who would have been doomed to invalidism for life, have by this operation been restored to health and to their former occupations.

These surgical procedures for putting the lung at rest are rarely necessary except in those patients who are not fortunate enough to find their disease until it has reached the

advanced stage and in those whose cases are more favorable but who fail to take the rest cure as they should.

In spite of a tireless search by the best scientists of the world, no specific has ever been found for tuberculosis. Nevertheless, if the rest cure is properly carried out, practically all cases of early tuberculosis can be cured, most moderately advanced cases can be arrested and even many of the far advanced cases will become quiescent and the patients restored to a large degree of their former usefulness in society.

ERYTHROCYANOSIS CRURUM

(Editorial, British Medical Journal, January 31st, 1931)

The detrimental effect of cold on the skin, in the guise of frostbite and chilblains, has long been a commonplace. In recent years further attention has been directed to this subject, first by the so-called trench foot, of which many thousand cases occurred during the war, and since then by an almost new affection of the skin which is the direct consequence of feminine fashion. This novel complaint is dignified by the name "erythrocyanosis crurum puellaris." This condition, first noticed by Balzer and Alquier in 1900, but only observed frequently during the last 12 years, is due to the fact that skirts have been shortened, and that the use of silk stockings has become almost universal among the present generation. Effective prevention and treatment would obviously consist in more adequate protection of the legs against cold. *Il faut souffrir pour ete belle.*

NEW CIRCULATORY SYSTEM FOUND IN BRAIN

(The Diplomat, May, 1931)

A new system of blood circulation in the brain, reports *Science Service*, has been discovered by Dr. Gregor Popa and Una Fielding of the University of London. These investigators state that besides the system by which blood flows from heart to brain and back again, there is a secondary or portal system conveying blood directly from the pituitary gland to the mid-brain. What part the newly discovered system may play in the distribution of the pituitary hormone has not yet been determined.

MEDICAL PROBLEMS (PRESIDENT'S ADDRESS)

(Davis, J. C., The Jour. Florida Med. Assoc., May)

Legislators and county officials are of the opinion that doctors do not know what they want, that they do not stick together and consequently can be ignored. We will continue to be ignored as long as we persist in drifting as individuals. I have suggested during the past year that every county medical society have a legislative committee the duty of which would be to confer with legislators with reference to proposed medical or public health legislation.

Nausea and Vomiting of Pregnancy*

C. J. ANDREWS, M.D., Norfolk, Va.

The familiar picture of vomiting of pregnancy is familiar to all who attend obstetric patients. About 60 per cent. of pregnant women suffer from it in some degree. About 50 per cent. need definite treatment, which if adequately and successfully given will reduce the very severe cases to a small percentage.

Since the mortality records are not reported under obstetric casualties, it is difficult to obtain the exact figures as to loss of life from this cause, but at least one observer expresses the belief that the total loss from this is as great as from eclampsia. Our own observation has given abundant evidence that it is at times a serious and dangerous malady. These cases have been classified as neurotic, toxemic or reflex. There seems to be little justification for any such arbitrary classification, as the condition is the same in all, the only difference being that some features may be more prominent in one case than another.

A number of clinical facts have been demonstrated which throw some light on its nature, and give some basis for treatment which would otherwise be entirely empirical.

The deficiency of glycogen in the liver seems to be an accepted fact, and, according to Titus and Dodds, a hypoglycemia is also demonstrable. Haden and Guffy found low sodium chloride, and regarded the condition as analogous to the vomiting of intestinal obstruction. They treated it successfully by large doses of sodium chloride. Harding believed that the loss of fluid was the key to the whole situation. Alvarez describes reverse peristalsis resulting from pelvic disorders. Artz has demonstrated the low hydrochloric-acid content by gastric analysis, in pregnancy, and its absence in hyperemesis.

Unfortunately post-mortem findings are not of much significance as the terminal changes have overshadowed the original conditions. It is obvious that in the severe cases the picture of starvation is most prominent, but this does not answer the whole question. Neither does the neurotic or the reflex expla-

nation. There is something else, but exactly what that is is not known.

The Abderhalden reaction has shown that certain placental elements are thrown into the general circulation. This at least suggests the source of possible toxic elements.

Our principal interest in this condition is the treatment. Fortunately methods have been devised which have greatly improved the results. It can be confidently stated that at present it is seldom necessary to induce abortion; nevertheless, it will occasionally give great concern and endanger life. Sedatives have long occupied a prominent place in the treatment; I cannot recall ever reading a paper on this subject which did not mention them in some way, even if the writer gave the credit to something else.

Dr. J. A. Calkins, in 1926, read a paper before the Norfolk County Medical Society in which he described a method of using bromide in large doses, and by a definite plan which had been used by Dr. Litzenberg of Minneapolis for 20 years without a failure, and with which Dr. Calkins had had practically as good results. This plan, for the severe cases, consisted of the usual hygienic advice, and 24 hours rest of the stomach. Sodium bromide gr. 60, in 3 ounces tap water by rectum exactly every 6 hours night and day. After 24 hours, foods, largely carbohydrate, in small, frequent meals were given, and fluids as early as the stomach could retain them. The bromide was gradually decreased, but continued enough to prevent vomiting, later giving it by mouth in 20-gr. doses once or twice a day. In the milder cases 20 grs. every 6 hours were given by mouth, gradually reducing the frequency of dosage.

Before trying treatment it is best to make a thorough physical examination of the patient, particularly as to the pelvis. Rucker and others have called attention to the benefits of treating any cervical erosions. I have usually done this, but have never had much help from topical cervical applications and

*Presented to the Seaboard Medical Association, meeting at Elizabeth City, N. C., December 3rd, 4th and 5th, 1930.

have hesitated to use the cautery which is so helpful at other times. I would particularly call attention to treatment of the mild or moderately severe cases. The relief is most gratifying and permanent if the dietary (frequent, high carbohydrate meals), and other well known hygienic measures are followed.

Under this regime only a few severe cases will develop, but there are a few highly neurotic women who show the characteristics of severe hyperemesis almost from the beginning. I have known one family in which the mother gave such a history, and two daughters in turn required one or more abortions to save their lives. One of these daughters I have since carried to the eighth month by the above treatment, and the other was the only one I have aborted in the four years I have been using the plan. This patient would, I believe, have escaped abortion but for an incarcerated retro-displaced uterus—one of the few I have ever seen.

The bromide alone will control most cases. Those which have developed a marked acidosis have not been relieved by it, and require glucose, which I have used by the method of Titus—using 75 grs. once or twice daily in 15 per cent. solution. The methods of injection and preparation of the glucose solution are most important. The severe reactions are usually due to some failure in this regard. Normal saline hypodermoclysis meets the indication for increased fluids and helps to correct the low saline content of the blood.

These women are usually so nervous that I would think they would bear the duodenal tube badly, but Paddock and others report good results where the need for fluid is extreme and other methods fail. I have not used insulin with the glucose, as advocated by Thalheimer, but if I had difficulty in clearing up the acidosis I would certainly try it.

The use of bromide has one rather serious disadvantage, particularly when used in large doses, of sometimes producing a bromide psychosis,—the patient becoming irrational and very difficult to manage. This condition, though not particularly dangerous, is very distressing to the family and friends. The bromide is excreted slowly, requiring from 20 to 30 days for complete excretion after one dose. Some individuals seem very susceptible, or excrete it more slowly. Fortu-

nately when the blood retains enough to produce a psychosis the vomiting is at an end for the time being.

Otto Wuth, in 1927, devised a quantitative method of detecting bromides in the blood. It has been shown that more than 150 mgs. per 100 c.c. of blood would give toxic symptoms. I have treated three cases and this has been approximately correct in my cases. One had 300 when the psychosis began. Fortunately there is a remedy for this bromide retention—sodium chloride intravenously, subcutaneously, or by mouth. I have used it intravenously daily for two weeks before the symptoms cleared up. In one case there was some recurrence of the vomiting after the bromide was below 150 mgs. in the blood. I continued giving bromide in small doses, but frequently checked it by blood examination for bromide and kept it under the danger point. I shall continue this precaution in all cases where considerable doses are used, or smaller ones for longer periods of time.

Unfortunately there are certain symptoms which call for abortion. These are jaundice, heavy albumin and fever with evidence of severe toxemia. These indicate that treatment has failed. If we wait too long here no treatment may be of use. From my own experience and the reported results of many others, we are encouraged to expect that these latter conditions will rarely be met with in the future where there is opportunity of using all the methods of treatment which are now available.

—305 Medical Arts Building.

PUERPERAL INFECTIONS AND THEIR PRESENT THERAPY (Polak, J. O., Brooklyn, Bulletin New York Academy of Med., April, 1931)

From 30 to 40 per cent of the maternal death rate from childbirth is credited to infection. This does not, by any means, give a true picture of the incidence of infection and the morbid conditions which result therefrom.

Postpartum infection is but a wound infection.

BREECH PRESENTATION

(Davis, M. E., Chicago, in Southwestern Medicine, April, 1931)

More babies are lost in breech deliveries as a result of undue hurry and misapplied force than of the limited time available for the delivery. A careful duplication of the mechanism intended by nature in each individual case, constantly on guard to prevent complications, will do much to diminish fetal mortality.

The Early Diagnosis of Pellagra*

VERNE S. CAVINESS, M.D., F.A.C.P., Raleigh, N. C.

In view of the rapid spread of pellagra in the Southern part of the United States in the past 25 years¹ it is natural for us to become interested in the ways and means of checking the spread and lowering not only the mortality, but also the morbidity. With other chronic wasting diseases the prognosis depends on an early diagnosis; so in pellagra the best results are obtained in the treatment of cases in which diagnosis is made in the incipient stages, without waiting for dermatitis and neurological signs.

Pellagra is a disease found principally in tropical and subtropical countries, and occurring usually as sporadic cases, but also in epidemic and endemic outbreaks. The malady is characterized by digestive disturbances, loss of appetite, lassitude, malaise, weakness, nervousness, dizziness, pains in the extremities, burning in the feet and hands, gingivitis and glossitis, menorrhagia, dermatitis and neurological disturbances, including various forms of dementia and neuritis, and often terminating in death.^{2, 3}

The name of the disease is derived from a combination of Greek and Latin words meaning rough or smarting skin, and it is on this symptom that the diagnosis is usually made.

Written records of the disease clearly extend over a period of two centuries, and early Greek and Egyptian writings suggest the possibility of such a condition having been in existence at that time.

Joseph Goldberger recognized the fact that, "although the fully developed disease makes a picture which, when once seen, can hardly ever fail to be recognized even by one who is not a physician, the diagnosis of the disease is by no means always easy, because the fully developed cases form only a small proportion of the total."³

The cause of the disease is unknown. Goldberger, who had done more investigative work on pellagra than anyone else, was positive that diet played the entire role of causation.^{4, 5} Other men, who have been in a position to

give the subject possibly a more intensive study than Goldberger, are of the opinion that infection alone is the cause. My own investigations indicate that probably both diet and infection play major roles in the etiology.

Many observers have noted two types of pellagra: 1. true pellagra—characterized by dermatitis and neurological changes; 2. *pellagra sine pellagra*—characterized by the absence of dermatitis.

Since in successive years the two types may be seen in the same individual, we are justified in considering the possibility of dealing with a disease that varies in intensity and in some symptoms, but having common general characteristics. Many observers are of the opinion that there is only one type and that in the condition of *pellagra sine pellagra* the process is not sufficiently severe to produce dermatitis.

Closely resembling pellagra is a condition of infancy known as acrodynia, erythroedema or infantile pellagra. It is a constitutional disease of infants, of unknown etiology, characterized by irritability, poor sleep, burning and itching of the hands and feet, followed by an erythematous eruption appearing usually first on the face, chest and abdomen and later on the hands and feet, lasting from a few weeks to many months or even years and terminating usually in recovery.⁶

In acrodynia, according to McCrae,⁷ "there is a change in disposition, with irritability and discomfort; the child is fretful and miserable. Photophobia, anorexia, weakness, slight fever occasionally and increased pulse rate occur. The rash is variable in character, sometimes like prickly heat. It may fade and reappear. 'Erythema' and 'eczema-like' are terms used to describe it. The color varies from pink to dark red. Marked itching and excessive perspiration occur. Hands and feet are red, swollen and cold, are compared to raw beef and show desquamation. Stomatitis and gingivitis with loss of teeth may be present. There may be loss of hair and nails. Dis-

*Selected for presentation to the General Sessions of the Medical Society of the State of North Carolina meeting at Durham, April 20th, 21st and 22nd, 1931.

turbance of sensation is common and there is a varying degree of hypotonia and pseudoparesis. Peripheral neuritis and changes in the spinal cord and nerve roots have been found. The children are subject to respiratory disorders."

Based on post-mortem findings, as well as on clinical observations and studies, many observers consider acrodynia to be a juvenile pellagra and not a distinct disease entity. It will be noted that the skin eruption is not always present.⁶

Pellagra presents many symptoms and marked variation in intensity of symptoms, not only in different patients, but in different recurrences in the same individual. Distinctly different types of dermatitis may appear at different times in the same individual.

Careful studies made of pellagrous patients, going into detail regarding the history of previous attacks, have revealed that some symptoms antedate the first appearance of dermatitis; also that the same symptoms are present in the interim between recurrent attacks. It is also noteworthy that these same symptoms appear in various degrees of intensity in almost all cases of pellagra.

Although the eruption is the main reliance in the recognition of pellagra, the eruption is frequently so late in making its appearance that some careful studies have been made of the other symptoms of pellagra, which, while not so spectacular as the eruption, are more constantly present and are of more value to the clinician from the standpoint of therapy based on an early diagnosis.

SYMPTOMS

Indigestion: The earliest symptom to appear in almost all cases of pellagra is indigestion. This symptom practically never disappears, even during the winter remission of symptoms. The onset is insidious. The patient can rarely set any definite date of onset. Frequently, the patient is sure that indigestion has been present throughout life. Others have always had to be careful of the diet because some foods disagreed with them. There is marked variation in the intensity of this symptom. In some patients it is very slight, but usually it is sufficiently severe to cause the patient enough discomfort to induce him to seek medical advice or take home remedies for relief. The symptoms often simulate gas-

tric or duodenal ulcer. Nausea may be present. Gaseous eructations and a sense of fullness or burning in the epigastrium are very frequently encountered symptoms.

It is quite interesting in studying a series of such cases to note the total absence of free hydrochloric acid in almost all cases, either being completely absent as a true achylia or achlorhydria or absent throughout a portion of the period of digestion. Other cases, however, present a curve that is low throughout digestion, though never dropping quite to an achlorhydria.

The striking resemblance of this picture to the digestive secretory curves seen in pernicious anemia cannot escape observation. It is probable that, as in pernicious anemia, the achlorhydria or achylia may be a congenital defect in many cases.

As would naturally be expected, there is an early loss of appetite, doubtless due largely directly to the failure properly to digest ingested food. The patient also is afraid to eat a properly balanced diet for fear of aggravating the indigestion. The first foods eliminated from the diet are those highest in protein content. Finally the patient attempts to subsist on a diet composed principally of carbohydrates, since such goods are most easily digested and do not require free hydrochloric acid for the digestive process. The result is the diet usually considered most conducive to the development of pellagra. Many observers have commented on the fact that pellagra often occurs in persons who subsist on an unbalanced diet, although living with non-pellagrous persons who eat normally balanced diets.

Lassitude: Usually, the second symptom to appear in pellagra is malaise or lassitude. The patient loses interest in everything and has little energy. Often there is an uneasy feeling. At times the condition is expressed by "I don't know how I feel." This group of symptoms has a slow onset with a gradual increase in intensity.

Nervousness is another of the constant symptoms. Often it is present very early in the disease, at times being noted before any other symptoms are given much consideration. The patient gradually becomes more nervous with various types of nervousness being seen. Some patients show no outward manifesta-

tions of nervousness, while others present it to extreme degrees. In this stage, a diagnosis of hyperthyroidism may be made unless a basal metabolic study is made. The patient is often emotional, and with very little control over the emotions. Tremor of the fingers, muscular twitchings, restlessness and faintness are frequently encountered. Often a diagnosis of nervous indigestion is made.

Dizziness and *vertigo* are often seen at about this stage of the disease. Swimming in the head is experienced and the patient is often afraid to walk alone for fear of falling. These symptoms are most marked following or during exertion.

Pain in legs: Following this, there is likely to be pain in the legs, without radiation, and burning in the feet and hands. Weakness in the legs is usually an associated symptom. There are sensations of heat and tingling. At other times one encounters numbness and loss of sensation in the extremities.

Diarrhea or *constipation*: Diarrhea is prone to appear at about this stage. It may never appear, or it may be the first symptom noted. Some pellagrins have an obstinate constipation, but little or no diarrhea. Many patients have alternating attacks of diarrhea and constipation. The cause of the diarrhea has never been determined. In one recent series of cases in Oklahoma,⁸ *Entamoebae histolytica* were found in 29 per cent. of persons studied. Parasites or cysts were found in smears made through a proctoscope even in cases presenting normal stool examinations. Other observers have not found amoebae in feces. With this method of search, more positive smears may be found.

Stomatitis frequently appears at the next stage. It may be the first symptom noted. In one case in a child I failed to find much evidence of any mouth infection. The degree of infection varies. Some patients will show only a red line about the teeth; others will present ulcerated gums, tongue and throat. At times the teeth become so loose that they can be removed by the patient by hand. The tongue becomes quite red, scarlet around the edges, and is protruded with difficulty. It is often furred. Superficial ulcerations, especially around the margins of the tongue and on the mucous membranes of the mouth and throat are often seen. Fissures about the mouth margins are also often present.

In my entire series of cases I have found identical infections in the mouth of all cases. There are two types of organisms ordinarily seen, 1. a spirillum, 2. an amoeba. The amebic gingival infection associated with an achlorhydria and diarrhea is, to say the least, suggestive of some causal relationship. Stomatitis is often so severe as to destroy any remaining semblance of appetite the patient may have. This symptom tends to become more aggravated until death or a remission intervenes.

Menorrhagia is frequently present, and may last for several weeks. At times there is a profuse flow and rest in bed may be required to help check it.

Dermatitis is present in about 80 per cent. of cases. Usually it does not appear for several weeks after the onset of early symptoms. A remarkable discoloration, which at first is red and erythematous, presently becomes more pigmented so as to resemble a condition of extreme sunburn. The skin becomes not only dark, but thickened and rough, and presently also cracks or fissures may occur and desquamation follows. It may subside to recur and it may spread to the face and other parts, usually symmetrically. There is a well defined line of demarcation between the erythematous or pigmented parts and the normal skin immediately adjacent to it.⁹

Suppuration at times occurs and is quite resistant to treatment.

Rarely, dermatitis is the first symptom noticed. Such patients state that they are very subject to sunburn, and frequently attribute the dermatitis to a few minutes' exposure to the sun.

Dementia, Neuritis: The neurological signs appear late in the disease, usually after several remissions. Probably, the early signs of tingling, burning and numbness are early stages of the general nerve changes. Occasionally such a severe grade of neuritis develops that any movement is painful. Such patients often are unable to feed themselves or make other voluntary movements.

Following early evidences of neuritis sooner or later nervous symptoms of a serious nature are added. These may take the form of progressive weakness, but more often they may simulate some gross intracranial change on account of the severity of headache with vomiting and giddiness, semi-coma, and even optic

atrophy or optic neuritis. Hallucinations are common, and not a few of the patients become actually insane, though this does not happen as a rule until the disease has been present for some time.⁹

ADVANTAGE OF EARLY DIAGNOSIS

Once there is definite change in the central nervous system, whether it be in the brain or cord, the deterioration is likely to be permanent. While the process may be stopped, regeneration can scarcely be expected. So, in order to prevent permanent damage to the central nervous system, a cure must be effected before the later symptoms appear. In other words, the disease must be arrested before the onset of neurological symptoms, and preferably before dermatitis appears. It is also important to anticipate, so far as possible, the earliest nervous manifestations, since even such early symptoms often are associated with some beginning changes in the central nervous system.

It is well to bear in mind the fact that we are not dealing with an acute disease, but with a chronic, progressive, wasting disease which, like pernicious anemia, tends to present remissions and recurrences. Also we are dealing with a disease that can be arrested at any time in its progress.

It is impossible to make a correct diagnosis in all cases at the beginning of any disease, but by careful study of prodromal symptoms and of the signs and symptoms as the disease progresses, the percentage of errors in diagnosis can be reduced. In this respect, pellagra is no exception and does not differ from other diseases.

A diagnosis of pellagra should not be made in every nervous patient who complains of indigestion; but there is a train of symptoms that should make every clinician think of pellagra. When a patient presents such symptoms and findings the conventional treatment for pellagra is as good a treatment as is known and certainly is not contraindicated; in many instances, such a diagnosis and treatment will constitute the difference between restoration to health and a life of semi-invalidism. When pellagra has advanced to the stage of central nervous system involvement permanent damage has been done.

The early signs and symptoms to which I wish to call your attention are low gastric acidity or achlorhydria, indigestion and loss

of appetite, lassitude, malaise, weakness, diarrhea often alternating with constipation, glossitis, stomatitis and gingivitis, especially if associated with a sore tongue with ulcerations or a scarlet margin. If the symptoms of pain and burning in the extremities are allowed to appear, permanent injury has begun.

The earlier the diagnosis is made, the better the end results of treatment can be.

Bibliography

1. LAVINDER: *U. S. Public Health Reports*, Oct. 29, 1909, 24, pp. 1617-1624.
2. GOLDBERGER: Pellagra, Its Nature and Prevention. *U. S. Health Report*, April 5, 1918, No. 461, pp. 481-488.
3. GOLDBERGER: Pellagra, Its Nature and Prevention. *U. S. Health Reports*, April 5, 1918, No. 461, pp. 481-488.
4. GOLDBERGER, WHEELER, LILLIE, ROGERS: Studies in Pellagra Preventive Diet. *U. S. Public Health Reports*, No. 1062, Feb. 19, 1926, pp. 297-318.
5. GOLDBERGER and WHEELER: Pellagra Preventive Action of Vegetables. *U. S. Public Health Reports*, May 13, 1927, pp. 1299-1306.
6. MCKIBBEN: Pellagra. *Sou. Med., Jour.*, Vol. 24, No. 4, April, 1931, p. 300.
7. MCCRAE: *Principles and Practice of Medicine*, 10th Edition, p. 1149 and pp. 407-409.
8. MARTIN: Pellagra. *Sou. Med. Jour.*, Vol. 24, No. 4, April 1931, pp. 297-300.
9. HUBERT FRENCH: *Differential Diagnosis*, 3rd Edition, pp. 225-226.

BACKACHE IN WOMEN: ITS SIGNIFICANCE AND TREATMENT

(Kark, C. L., London, *British Medical Journal*, February 28th, 1931)

In the treatment of backache the most essential factor is the provision of adequate support and rest. The support must relax the strained spinal ligaments and the musculature. Rest in bed without an arch support is of little value, and, in fact, is often harmful, as the vast majority of beds sag, the patient lying in a saucer-shaped hollow, with shoulders and feet well above the level of the lumbar arch, which becomes dorsiflexed.

A simple apparatus has been devised, which has given most gratifying results in practice. The device consists of a rubber bag large enough to cover the lumbar arch, to which is connected a piece of rubber tubing sufficiently long to be brought round to the front of the patient. To the free end of the tubing is attached a valve and bulb. The rubber cushion is easily inflated to the required degree, the valve being used as a control. By its aid the back can be maintained in a constant state of relaxation and freedom from strain; only in this way can aching be effectively remedied.

Spinal Anesthesia*

NEWSOM P. BATTLE, M.D., Rocky Mount, N. C.

Surgical Service, Park View Hospital

Intraspinal block, commonly spoken of as spinal anesthesia, has survived the test of time and has now become one of the safest and perhaps the most useful of the anesthetics. Its advantages are many, its disadvantages are few. The lack of operative shock, the perfect relaxation, the decreased number of postoperative complications made possible by its use, class it as one of the greatest additions to the armamentarium of the surgeon.

The phenomenon has its explanation in the marked selective affinity of sensory nerves for the cocaine series, the action of which produces a physiological nerve block. The motor nerves, while much more resistant to the drug than are the sensory, are involved to some extent in every case. That some fibers are more resistant than others is seen in the order in which the anesthesia appears, which is, (1) loss of pain sense, (2) loss of tactile sense, (3) loss of motor sense, (4) loss of muscle power, (5) loss of vasomotor control.¹

The spinal canal is divided into a posterior and an anterior compartment by an irregular cribriform membrane, the ligamentum denticulatum. The posterior roots containing sensory fibers are therefore subjected to a greater diffusion and concentration than are the anterior roots which contain the motor fibers. The involvement of the anterior roots is not profound except at the site of the puncture, provided, of course, that the needle is not pushed through into the anterior compartment.

When the drug comes into contact with the nerve tissue a rapid fixation occurs between it and the lipid substance of the nerve and anesthesia begins almost immediately.

The level to which the block extends depends upon the diffusion and concentration of the reinjected spinal fluid. The greater the amount of fluid withdrawn and reinjected the greater the diffusion.

At the Boice-Willis Clinic, Park View Hospital, in a series of 750 consecutive major

operations intraspinal block was used in 300—40 per cent of the cases.

Neocaine, the Anglo-French preparation of novocaine, was used because novocaine is the least toxic of the drugs commonly used for this purpose.

This form of anesthesia was selected for two reasons, 1st, because of the advantages of the anesthesia itself which are: (a) simplicity; (b) safety; (c) perfect relaxation; (d) applicability; and 2ndly, because it can be used with safety in cases that would be harmed by inhalation anesthesia—especially ether, such as, tuberculosis, pneumonia, nephritis, hypertension, diabetes and eclampsia.

TECHNIQUE

The technique has been simplified as much as possible. The equipment consists of one Labat syringe, two Labat spinal needles, one 2-c.c. Luer lock syringe, one intradermal and one 5-cm., 23-gage hypodermic needle, two medicine glasses, one for procaine 0.5 per cent., the other for picric acid—one sponge stick, one ampule of neocaine, one file, several small sponges and one towel. These are placed on a sterile tray which is easily accessible to the operating table.

PREOPERATIVE TREATMENT

No preoperative treatment is really necessary when the operation can be planned; however, the patient is given some form of sedative if necessary on the night before the operation so as to insure him a good night's rest. Fluids are permitted up until three hours before operation. Enemas are used instead of purges. Morphine and atropine are given a half-hour before the operation.

A half-hour after the narcotic the patient is rolled into the operating room. An assistant turns the patient on his side and flexes his back. The site of injection is painted with picric acid and a folded towel placed over the uppermost iliac crest. The interspace between the 2nd and 3rd lumbar vertebrae is then identified and the skin and deeper tissues

*Presented to the Seaboard Medical Association, meeting at Elizabeth City, N. C., December 3rd, 4th and 5th, 1930.

procainized, following which the spinal puncture is done and 4 c.c. of spinal fluid withdrawn. The crystals are thoroughly dissolved and the neocaine-spinal solution injected into the canal without barbotage. The injection time is approximately 3 seconds. The patient is then quickly, but gently, turned on his back, immediately following which the table is adjusted between 15 and 18 degrees in the Trendelenberg position. The operative field is then prepared, the patient draped and the operation begun.

The success of the spinal puncture depends upon a properly flexed back and upon keeping the needle in the midline and in the perpendicular plane.

When a blood tap is encountered the needle is withdrawn for a short distance and if the fluid does not become clear in a very short time, another interspace, above or below, is chosen. The intraspinal pressure is greater than the venous pressure so there is but little danger of excessive bleeding into the cord. Upon the completion of the operation the patient is gently lifted to a stretcher, which is so arranged by means of a wooden inclined plane, that the Trendelenberg position is maintained. It is necessary that care be taken not to elevate the head.

The postoperative care does not differ essentially from that of any other postoperative case except that the foot of the bed is elevated and that no pillows are permitted until after the foot of the bed has been lowered. Under ordinary circumstances the foot of the bed is kept elevated for three hours, but it may safely be discontinued as soon as the patient can move his legs. Fluids may be started at once unless the operation has made this prohibitive.

The mortality rate is an index to the safety of a procedure. Babcock states that in selected cases the mortality is probably less than 1 in 10,000, but that, when it is used in unselected patients who are bad surgical risks, without special safeguards, a mortality rate of 1 in 500 may be expected.² Koster, on the other hand, in a series of almost 6,000 unselected cases, which were not given any special safeguard except the Trendelenberg position, had a mortality of six.³

Cardio-respiratory failure, when it occurs, is not due to any direct action of the drug on

the upper cervicals or medulla, but to a cerebral anemia, induced, it is true, by a marked vasodilation which comes as a result of the blocking of the vasoconstrictors.

Koster applied novocaine in large doses to the medulla and upper cervical cord in animals and obtained complete anesthesia with somnolence without producing death.⁴ In discussing his experiment he emphasizes the fact that nerve fibers lose their conductivity long before they lose their excitability, and that in the central nervous system the motor mechanism is highly resistant to anesthetic action. Quoting him: "Sensory impulses en route to the cerebrum may be stopped in the medulla because the cardiac and respiratory centers in the medulla, although their excitability is lowered, can still initiate motor impulses in response to physio-chemical stimuli furnished by the blood."

Another feature of safety is that novocaine has no irritating action on the lungs, kidneys, liver, or endocrine system, therefore its use in cases suffering from these diseases is not adding insult to injury. The absence of operative shock is a great safety factor when dealing with the aged and the debilitated.

The relaxation produced by spinal anesthesia cannot be approached by any inhalation anesthetic used within the bounds of safety. Tissue damage from retraction is eliminated or greatly reduced and the surgeon can work in the abdomen with an ease not permitted by any other anesthesia. The wound literally gapes open. Muscle pull seen in fractures is quickly and effectively conquered. The blocked pelvic nerve gives relaxation of the anal sphincter. In contrast to the marked relaxation of the skeletal muscles, intestinal peristalsis is increased, due to the blocking of the sympathetic fibers which permit over activity of the vagus and the plexus of Auerbach and Meissner.⁵ Relaxed abdominal walls, increased intestinal peristalsis, relaxed anal sphincter—could the abdominal surgeon ask for more, especially in intestinal obstruction?

In this series of cases the operations have consisted of procedures below the diaphragm, including amputations, reduction of fractures, cesarean section, cholecystectomy and nephrectomy. Two cases of radical mastectomy and one case of open reduction of dislocated

clavicle have been the extent of the procedures above the diaphragm.

The patients have consisted of the young and the aged, the weak and the strong, and of both good and bad surgical risks. Most of them, however, were good risks for any type of anesthesia. One, a patient with appendiceal abscess and intestinal obstruction, was a 45-years-old man in the last stages of pulmonary tuberculosis. The youngest patient was 4 years old and the oldest 85. Up until after this series had been compiled there was no case with a systolic pressure below 120; recently, however, there has been one case in which no systolic pressure could be recorded. The highest systolic pressure recorded was 260.

The dose has varied from 50 mgm. in children under 12 years of age, and in some of the adult rectal cases, to 200 mgm. in adults. In adults weighing from 90 to 160 pounds, 100 to 120 mgm. were given for operation in the pelvis and lower abdomen where anesthesia was desired for from 30 to 60 minutes; 150 mgm., and in a few instances 200 mgm., were used for operation in the upper abdomen lasting an hour or over. Two hundred mgm. were used in operations above the diaphragm. Four c.c. of spinal fluid were used to dissolve the crystals. The children were given one-half of 100 mgm. dissolved in 4 c.c. of spinal fluid. This is the dose given by Koster to children between the ages of 2 and 8. Children require a larger dose in proportion to weight than do adults, while old people require a smaller dose. The breast cases and the clavicle case required a small amount of additional anesthesia. This would not have been necessary had 8 c.c. of spinal fluid been used. The most satisfactory dose for cases of this kind is 300 mgm. dissolved in 8 c.c. of fluid.

Of the 300 cases, 68 required additional anesthesia in the form of ether, gas-oxygen-ether, or gas-oxygen. One of the patients demanded to be put to sleep just after the spinal induction was given. She was given two ounces of ether. Her operation lasted one hour and 40 minutes. The neocaine dose was 150 mgm. Two patients became hysterical: one required half an ounce of ether for her 41 minute operation; the other was given gas-oxygen throughout.

There were five failures. These were attributed to faulty technique as a result of which the neocaine-spinal fluid failed entirely or in part to get into the spinal canal. Another possibility is that the crystals were not thoroughly dissolved and that the delayed block, caused by the slowed reaction which takes place when this occurs, made it necessary to put the patient to sleep. These faults can be corrected.

Nausea occurred 83 times, generally in from 10 to 30 minutes after the induction. Forty of the 83 vomited. Usually this complication is short-lived. A few patients, however, were nauseated throughout the operation. Seven complained of pain in their chests, two said that they were having difficulty in breathing and two showed symptoms of beginning cardio-respiratory failure. There was one death.

A fall in blood-pressure ranging from 5 to a point where no manometric reading could be obtained, occurred in all of the cases. The maximum drop occurred generally within the first 20 minutes, the low point was then maintained for a short time and gradually returned to within 10 to 20 degrees of the preoperative systolic reading.

Nausea and vomiting are of no great importance. The condition may be either psychic, reflex, or due to the drop in blood-pressure.⁶ Assisting the patient to take deep breaths by holding his nose and applying cold wet cloths to the face are useful both in its prevention and treatment. Oxygen was tried for a while but was found to be of no value.

The pain in the chest sometimes experienced is hard to explain. It may be psychic, or due to the heart trying to empty itself of too small a volume of blood. No attempt to alleviate it has been made.

Difficulty in breathing, unless it is due to cerebral anemia, may be due to misinterpretation on the part of the patient. On the other hand the Trendelenberg position may be responsible. Then again it must be remembered that the type of respiration, especially in men, is changed in these cases.

Some of the patients have had fecal incontinence: the blocking of the pelvic nerve explains this. It is useful rather than detrimental. When perineal operations are being performed it is safer to pack the rectum.

The fall in blood pressure is to be expected and is proportional to the involvement of the anterior roots, which contain the vasomotor fibers. Two other factors are mentioned: 1st, the decreased amount of blood reaching the heart, due to diminished aspirating action of the thorax, and, 2ndly, the retardation of the heart action produced when the blocked cardio-augmentor nerve permits the vagus to act alone.⁷ When the vaso-constrictors begin to regain their conductivity the blood pressure rises.

Adrenaline was used preoperatively in more than 100 of the cases in this series and the manometric readings were carefully recorded. In the remaining cases no adrenaline was used. No essential difference in the blood-pressure recordings was observed. Only a preoperative reading is now made. The symptoms of beginning failure—loss of voice, cyanosis and change in pulse and respiration—give sufficient information concerning the patient's condition.

Obviously the most important of the complications occurring during the anesthesia is cardio-respiratory failure. To recapitulate, this condition is the result of cerebral anemia produced by splanchnic dilation and its accompanying fall in blood-pressure. The fall in blood-pressure is just as much a part of the picture produced by intraspinal block as is the marked muscular relaxation, and it is proportional to the involvement of the anterior roots which can be controlled to some extent by keeping the spinal needle in the posterior chamber of the spinal canal.

The logical procedure is to combat the cerebral anemia, and this is done by placing the patient in the Trendelenberg position, producing thus a drainage to the heart by gravity. When the symptoms of cerebral anemia appear in spite of the Trendelenberg position, artificial respiration reinforced by oxygen and carbon dioxide is to be faithfully and persistently applied for at least two hours if necessary, provided of course that the heart remains active. Sometimes, due to cardiac massage, activity may be resumed for a while; but irreparable damage to a degree incompatible with life occurs in the brain after it has been deprived of blood for only a few minutes.

Intravenous saline may be used as a means of supplying fluid volume to the heart. The

only chance of cardiac stimulants being of value is when they are used in this way. Their value then is questionable. When the pharmacological action of adrenaline is recalled, the futility of its use in cases of intraspinal block is evident. If used for its action on the walls of the blood-vessels, the peripheral anemia offers but little hope for its conveyance to the dilated splanchnics. Another thing: would one hope to produce constriction of the cerebral vessels in these cases? Labat advises against its use.⁸

The death occurred in a 60-years-old white man suffering from partial intestinal obstruction of 30 hours' duration. On admission the skin was cold and clammy, the blood-pressure could not be registered, the temperature, pulse and respiration—98.6, 100 and 25. At the time of operation, 3 days after admission, his general condition was apparently much improved. The blood-pressure was 120/80 and the pulse 90. He was given 120 mgm. and 4 minutes later the operation was begun. In 27 minutes after the induction the pulse rate had dropped to 52, and 15 minutes later—42 minutes after the induction—the respirations became very slow and shallow. At this time the pulse rate had dropped to 28. Respirations stopped 62 minutes after the induction, but the heart was kept going for 20 minutes longer. When the pulse rate dropped to 50 the table was placed in extreme Trendelenberg position. Artificial respiration reinforced with oxygen-carbon dioxide was started when the respirations became slow. Intraventricular adrenaline and cardiac massage were given without any beneficial result. The Trendelenberg position and the artificial respiration were indicated. The artificial respiration was seriously handicapped by the emptying of a stomach full of fluid. It is possible that the patient might have been saved had this not occurred. The writer did not witness this death but he has witnessed two similar deaths in another clinic.

Postoperatively 13 patients complained of headache and 21 required catheterization. Backache occurred about as frequently as it does following ether.

Spinal shock, ocular complications, meningitis, meningismus, nerve injuries, and psychic disturbances have not been encountered in this series up to date.

Of the 13 cases in which complaint was

made of postoperative headaches, two lasted for 3 days and were quite severe. Several explanations for this condition have been offered. No additional ones will be given here. Suffice it to say that it occurs following diagnostic lumbar punctures. Precautionary steps are taken in the hope of its prevention. The spinal needle used is of small caliber. The patient is advised against lifting his head during and for several hours after operation. Care is taken to insert the needle with as little trauma as possible. All of the patients complaining of headache were kept in the horizontal position. Eleven responded to aspirin and similar drugs and were relieved in a few hours. One of the severe cases was relieved following the use of 2 c.c. of 50 per cent. magnesium sulphate intravenously. Two doses were used. One case required repeated doses of codeine for 3 days. This case was not one in which magnesium sulphate was given. Some authors advise elevating the foot of the bed, sedatives, magnesium sulphate by bowel and intravenously, and spinal punctures, depending upon whether the headache is considered to be due to a decrease or an excess of spinal fluid.

Twenty-one of the cases required catheterization. In most instances this was necessary only one time.

Syphilis, epilepsy, cerebellar tumor, and local suppurative conditions of the spine are conceded by authorities to be contraindications for intraspinal block, others think that, in addition to the conditions mentioned above, it should not be used in cases of ruptured appendix, strangulated hernia, or pregnancy complicated by abdominal conditions. A systolic pressure of below 100 degrees is still considered by some to be a contraindication for its use. In some cases the Trendelenberg position may be considered to be a contraindication.

In this series of cases there were 113 cases of appendicitis; 18 of which were perforated. It is felt that these cases were not harmed by the use of spinal anesthesia. In the cases of strangulated hernia the increased peristalsis had no ill effect upon the diseased portion of intestine.

The author's conception of the advantages of this method of anesthesia have been mentioned.

The inability to stop the anesthetic once it has been given, the occasional nervousness on the part of the patient, and the various complications listed above, may be justly looked upon as disadvantages. Many of the so-called disadvantages can be overcome by the anesthesiologist as he becomes more familiar with the method.

Bibliography

1. EVANS: Spinal Anaesthesia. *Hoeber*, 1929, p. 79.
2. BABCOCK: Spinal Anaesthesia, a study of about 15,000 Inductions. *Medical Jour. of Pennsylvania*, 1922.
3. KOSTER, H., and WEINBRAL, M.: Complications of Spinal Anaesthesia. *A. J. S.*, Vol. LX, No. 2, 1930, pp. 234-242.
4. KOSTER, H.: *Surg., Gynec. and Obst.*, Vol. XLIX, Nov., 1929, pp. 617-630.
5. EVANS: Spinal Anaesthesia. *Hoeber*, 1929, p. 94.
6. EVANS: Spinal Anaesthesia. *Hoeber*, 1929, pp. 124-125.
7. EVANS: Spinal Anaesthesia, p. 85.
8. LABAT: The Trend of Subarachnoid Block. *Surgical Clinics of North America*, Vol. x, No. 3.

GINGIVITIS AN ENTITY, INCLUDING ALL FORMS FROM ACUTE VINCENT'S TO CHRONIC PYORRHEA

(Keilty, R. A.—Washington, D. C.—in *Southern Medical Journal*, May, 1931)

The study gives to the bacteria and protozoa present a predominant role in the etiology of gingivitis and to all other factors an important but a secondary role. The bacteria and protozoa involved have been enumerated and given their appropriate positions.

The study has established the fact that preoperative gingival treatments given according to these concepts has eliminated postoperative infection with cellulitis, osteomyelitis and death. In several hundred cases there has not been a single incidence of such an accident.

It has established the fact that all dental surgery should be done at one time, that is, after the patient is properly prepared, and not on several occasions as is now the practice.

THE KNEE-JERK AND ITS VARIATION

(Royle, N. D., Sidney, *British Medical Journal*, Jan. 3rd, 1931)

To test a knee-jerk the patient should be in a reclining position. The head and back should be supported, so that the contraction of extending muscles of the neck is not evoked. The knee should be bent and allowed to swing freely over the edge of the bed or couch. In this position the quadriceps muscle is stretched, and this stretching induces whatever tone the quadriceps is capable of exhibiting.

Cesarean Section: The Safety of the Low Cervical Section as Compared to the Classical Operation*

IVAN PROCTER, M.D., Raleigh, N. C.

Department of Obstetrics and Gynecology, Mary Elizabeth Hospital

I bring this subject to your attention for only one purpose and that is in an effort to single out one means of lowering the all-too-high maternal and fetal morbidity and mortality that is now widespread in our land. Every man here doubtless knows, but rarely thinks of the fact that these United States of ours with the greatest medical profession on earth have charged up against them the fact that we have next to the highest maternal and fetal morbidity and mortality of any civilized nation. If this be true, and it seems to be, judging from public health statistics, it is a disgrace and a blot on our fraternity. If it is not a fact we should go to work to stamp out the false idea.

Following this line of thought we might refer to two additional means of lowering obstetric morbidity before proceeding to the main subject.

First, Toxemia of Pregnancy is a cause of much obstetric morbidity and mortality and we believe it can be—and think we have seen the severe form—eliminated by education of the public through prenatal care and by the termination of pregnancy in all cases of toxemia, regardless of the duration of pregnancy, if the condition does not subside on absolute rest in bed, milk diet and elimination.

Secondly, our maternal and fetal morbidity and mortality will be reduced by the elimination of the all-too-frequent Interference in Labor in an effort to shorten the process, especially when the cervix is not completely effaced and fully dilated nor the head well molded and fully engaged in the true pelvis.

As to the third point, Cesarean Section, I do not want it understood that I am advocating this method of delivery except in those cases in which it is specifically and definitely indicated. I am, however, advocating, when abdominal delivery is advisable, the type of operation which, from personal experience and observation of the work of others, seems to

be beyond the shadow of a doubt the safest procedure for the patient, resulting in a definite lowering of maternal morbidity and especially mortality. Any type of treatment should be selected for the good of the patient.

Few surgeons are so situated as to operate on a very large number, so it is the result of our experience and of the work of the rank and file of obstetricians and surgeons that really interest us.

Cesarean section as a means of delivery has had much difficulty in surviving, and rightly so, because the mortality has always been too high and remains so today. There have been many techniques devised and many abandoned. Those discarded have in a large majority of instances lost their favor on account of postoperative peritonitis and death. The Lasko extraperitoneal operation offered the best results, but the frequent accidental opening of the peritoneum lowered its advantages.

Kronig of Freiburg,³ following Selheim, then suggested the operation through the lower uterine segment behind the bladder, and in 1919 Beck in this country published the technique of the two-flap low cervical cesarean section. In the beginning such men as DeLee were against the innovation, both on theoretical and practical grounds; but for years now he, as well as Hirst, Polak, Bailey and many others in America, and Kerr and Holland in England, are absolutely positive of the advantages and advocate that technique in almost every instance.⁴

The greatest weakness of the classical operation lies in the location and final closure of the uterine wound. The incision is made through the thick muscular wall of the fundus which for a week or more is in constant contraction and relaxation grinding the edges of the wound against each other with the action of the muscles tending to separate them. This allows the depositing of infected lochia throughout the vulnerable upper abdomen as

*Presented to the Section on Obstetrics and Gynecology, Medical Society of the State of North Carolina, Durham, April 22nd, 1931.

the uterus makes its normal excursions during the first part of involution. The wound may be securely closed with well coaptating sutures which must necessarily act as hemostatics but this closure does not prevent bacteria from traveling along the sutures to the the peritoneal cavity.⁵ Bacteria enter the lower uterine segment in all cases 36 hours after delivery and make of the uterine cavity a real incubator by the fifth day post partum.

Rupture of the uterus is almost entirely absent except where the wound is made above the lower uterine segment as in the classical operation. In a total of 75,000 low cervical cesarean sections there have been reported only 22 cases of rupture, whereas in all reports the ruptures following the classical operation are 1 to 4 per cent. This would give in 75,000 classical cesarean sections 750 to 3000 ruptured uteri with an average of 3 per cent., or 2250 ruptures. This fact alone should convince the most skeptical of the safety of the low operation.

If we place the death rate in cases of rupture at 3 per cent. the classical would have over 65 deaths to every one death in the low operation. The tendency of the wound in the fundus to separate may leave only the peritoneum to protect the abdominal cavity. Deaths a few hours after operation are usually due to hemorrhage or tearing open of the wound. Wolff reported 14 cases in which contraction burst the wound in spite of the type of suture material used. In a large series Spaulding found 3 per cent. ruptures and Holland 4 per cent.

Greenhill examined sections from the scars of previous low cesarean sections in 37 cases finding no scar in 6, minor scars in 5, undoubted scarring but integrity unchanged in 21, marked thinning in 5, these giving the appearance that they would not withstand the strain of labor. If such were the case in the thin, noncontractile lower uterine segment what could we expect from the fundus?

Harris and Brown cultured the uteri from 50 cases of cesarean section and found 22 cases infected after 6 hours in labor, 21 of these febrile. All wounds healed poorly. The conclusions were that vaginal examination and ruptured membranes increased the likelihood of bacterial invasion; that the presence of fever indicates infection resulting in poor scar but absence of temperature does not insure against it. Classical or conservative

section is therefore not considered safe except at the time of election. The phrase "Once a cesarean always a cesarean" came as a result of ruptured uteri.

The low cervical operation has been forced into use in order to eliminate the dangers of the classical section. All of its advantages are derived directly or indirectly from the incision through the thin, non-contractile pelvic segment of the uterus. If there is spill during the operation it is cared for by the pelvic peritoneum which has developed an immunity through close contact with the vagina, cervix and rectum and is therefore most capable of handling infection. Spill and seepage irritate the peritoneum as shown by the presence of adhesions in 80 per cent. of classical, and 40 per cent low cervical, operations. If there is leakage after operation it is outside the peritoneal cavity in cervical cesarean section and an abscess may be emptied by incision in the anterior vaginal wall. Scott reports three such cases which, occurring after the classical operation, would have meant certain death.

The lower segment is much less vascular and therefore insures against hemorrhage, shock and embolus. These patients do not have the distress of distension, nausea and vomiting and lack the signs of having had a serious operation. It makes the risk of rupture almost nil. Fertility is not reduced. It reduces the necessity of cesarean section in many instances by allowing a test of labor in contracted pelvis where 75 per cent will progress satisfactorily *via* the natural route. It is a comparatively safe method of rapid delivery.

Polak reported 2200 cesarean sections by many operators throughout the country giving 3 per cent. mortality in patients not in labor; 6 per cent. in patients who were in labor and 14 per cent in those with ruptured membranes. Gordon and a committee investigating cesarean section in Brooklyn hospitals reported 1200 classical cesarean sections with a mortality of 6 per cent., approximately 200 low cervical operations with a mortality of 4 per cent. Fifty-three per cent. of the classical operations were in patients not in labor or in labor less than 6 hours without ruptured membranes and therefore in the best surgical condition, while 66 per cent. of the low cervical operations were in patients not in labor more than 6 hours, and frequently with rup-

FIG. 1.—From DeLee. The peritoneum over the lower uterine segment has been incised 3 cm. below the line of firm attachment which can be seen here to the left of the thumb and between the thumb and the middle finger. It is marked by a transverse line ("grey seam," DeLee) and a ridge on the muscle. The lower flap of peritoneum is being dissected with the bladder down to the vaginal attachment. Then the upper flap is dissected. The avascular line of cleavage is between the peritoneum and the uterine fascia. It is important not to get into the fascia in order to avoid difficulties and bleeding.

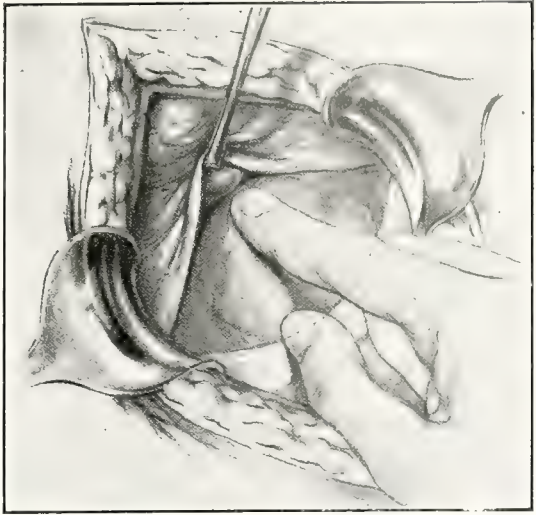


FIG. 2.—From DeLee. The line of proposed incision in the lower four inches of the uterus is delimited by sutures or Allis forceps. A small opening is made in the upper and lower part, a tonsil knife passed in and down between the uterine wall and membranes. The end of the knife is brought out through the lower opening and the incision made. The incision may be made with bandage scissors.

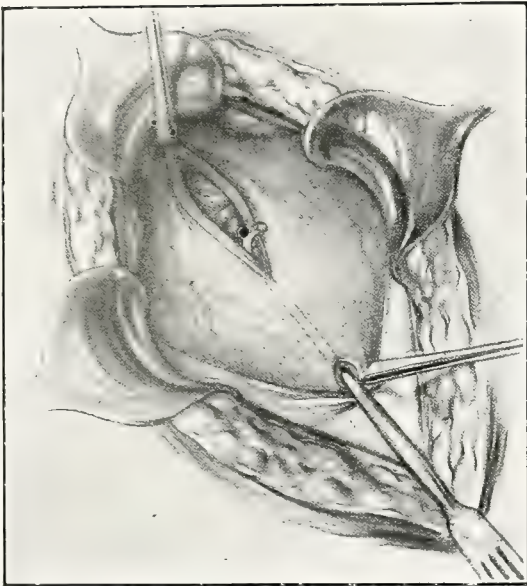
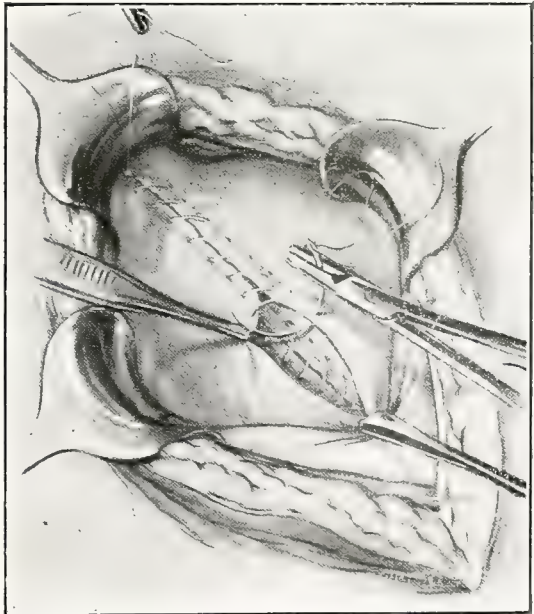


FIG. 3.—From DeLee. The baby and placenta have been removed as in any cesarean section. The uterine wound has been closed with No. 2, 20-days chromic catgut (best interrupted sutures). The important uterine fascia is now being closed.



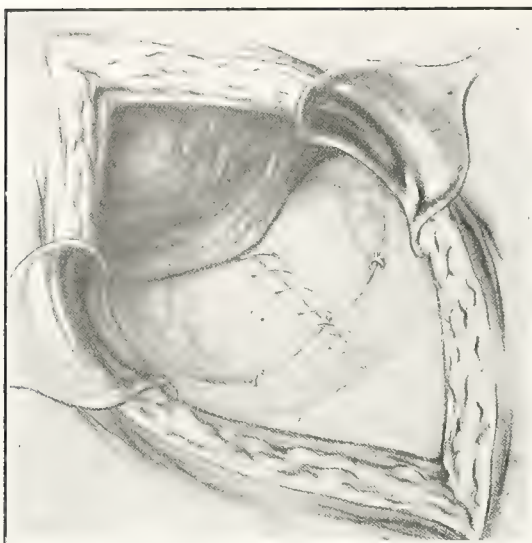


FIG. 4.—From DeLee. This shows the important steps of making the uterine wound from this time on extraperitoneal. The upper flap of peritoneum is pulled down over the fascia and fastened with two sutures of No. 1, 10-days chromic catgut.

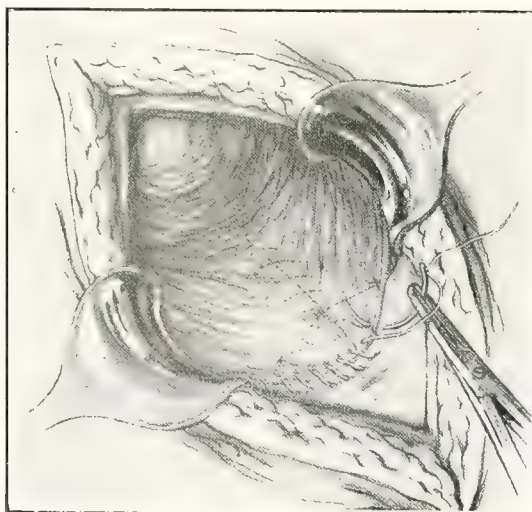


FIG. 5.—From DeLee. Finally the lower (bladder) flap is pulled up over the upper and sewed with a continuous suture of No. 1, 10-days chromic catgut, burying the knots. The small amount of spill and blood is wiped out of the utero-vesical space—the intestines are rarely seen—and the abdomen closed without drainage.

tured membranes and in poor surgical condition.

Winter reports 3554 low cesarean sections by 384 operators, mortality 3.7 per cent., while 862 classical extraperitoneal and Porro operations gave 6 per cent. mortality.

Illustrative Case Reports

1. No. 3697, a nurse 31 years of age, pregnant for the first time, admitted complaining of dyspnea. She gave a history of decompensation while in training. A diagnosis of aortic stenosis with mitral regurgitation was made. The pelvis was of the justo-minor type. A low cervical cesarean section was done at term under novocaine, plus gas at the time of extraction. Both baby and mother were discharged 15 days later in good condition.

2. No. 5587, a 37-years-old primipara was brought in 40 miles with a history of having been in labor 3 days. The true conjugate was 8 centimeters, the cervix thin and dilated 5 centimeters. We were unable to force the fetal head in the pelvis. The blood pressure 215/100. There had been several vaginal examinations at home through an unprepared, unshaved vulva. The patient was highly nervous and on point of convulsions. A low cervical cesarean section was done under novocaine, plus gas. The mother recovered and was discharged with a healthy baby in the usual length of time.

3. Patient 18 years of age, irregular pains for two days. True conjugate $8\frac{3}{4}$ centimeters. Large baby. Examined through unshaven, unprepared vulva at home. On admission given castor oil and quinine. Pains became frequent and forceful for 24 hours. Cervix effaced but unable to force fetal head into pelvis. Low cervical cesarean section. Mother and 8-pounds baby discharged in good condition two weeks later.

The Technique (DeLee and Beck) consists briefly of:

1. Thorough preparation of lower abdomen. Catheter inserted in bladder.
2. Six-inches midline incision down to symphysis.
3. A long lap sponge is tucked in a semi-circular way between the fundus and abdominal wall.
4. The line of firm attachment of peritoneum (junction of lower uterine segment and corpus uteri) is located by a transverse line—"gray seam" DeLee. The peritoneum 4 centimeters below is picked up with toothless tissue forceps and nicked with scissors. Be careful to pick up only the peritoneum for it is between this membrane and the uterine fascia that we find the avascular area. This is the secret of eliminating difficulties, for to cut

into and strip the fascia causes persistent oozing of blood.

5. The peritoneum is opened transversely, then separated with the bladder by scissors and finger dissection down to the vaginal attachment. The upper flap is dissected to the point of firm attachment.

6. Insert delimiting sutures in the deepest 4 inches of the lower uterine segment. Open lower uterine segment with bandage scissors or tonsil knife.

7. Give 1 c.c. ergot intramuscularly. Give pituitrin as soon as the baby is extracted.

8. Deliver baby and placenta as in any cesarean section.

9. Close uterine wound with No. 2, 20-days chromic catgut, interrupted.

10. Close uterine fascia with continuous suture.

11. The upper flap is now tacked down with No. 1, 10-days chromic catgut, using two sutures and the lower flap brought up and sewed with a continuous suture of the same material. The small amount of blood in the vesico-uterine space is wiped out, the intestines are rarely seen. The abdomen is closed in the usual manner.

Beck has later advised the leaving of a 3-centimeters strip of peritoneum intact on the lower segment and we have followed his suggestion to advantage in some cases.

The advantages are, it

1. Eliminates the necessity for wide transverse incision in the peritoneum reaching almost to the broad ligament.

2. Prevents tearing the peritoneum at delivery.

3. Reduces the amount of trauma and cuts the dead space 50 per cent.

To recapitulate, the low cervical cesarean section:

1. Reduces the mortality of operative delivery.

2. Reduces the necessity for cesarean section in many patients by allowing a test of labor.

3. Widens the indications for operative delivery to include the heretofore mismanaged and hopeless cases.

4. Reduces the danger of subsequent rupture from 3 per cent. to almost nil.

5. Eliminates the postoperative shock and distress of abdominal delivery.

References

1. PROCTER, IVAN: On the Prevention of Eclampsia. *Southern Medicine & Surgery*, Jan., 1925.
2. PROCTER, IVAN: A Study of the Pelvis in Relation to Operative Delivery. *Southern Medicine & Surgery*, Aug., 1927.
3. BECK, A. C.: Two-flap Low Incision Cesarean Section. *American Jour. Ob. and Gyn.*, Feb., 1919.
4. BECK, A. C.: *Nelson Loose Leaf Surgery*, Oct., 1930.
5. The Lower Uterine Segment Cesarean Section Operation of DeLee. COOMBE, *Centenary Congress Report*, Sept., 1926.
6. DANFORTH: Low Cervical Cesarean Section. *Am. Jour. Ob. and Gyn.*, Aug., 1928.
7. GREENHILL, J. P., Chicago: Personal Communication.
8. GREENHILL and BLOOM: Histologic Study of Uterine Scars after Cervical Cesarean Section. *Jour. Am. Med. Assn.*, January 5, 1929.
9. HARRIS and BROWN: Bacterial Contents of Uterus. *Am. Jour. Obs. and Gyn.*, February, 1927.
10. GORDON: Review of Cesarean Section, Brooklyn Hospital, N. Y. *Am. Jour. Obs. and Gyn.*, Sept., 1928.
11. BECK, A. C.: *Nelson Loose Leaf Surgery*, Oct., 1930.
12. LEE, LESLIE: Low Cervical Cesarean Section, *Transactions, North Carolina State Medical Society*, 1929.

—209 Hillcrest Road.

MATERNAL DISABLEMENT

(Bell, W. B., London in *The Lancet* (London), May 30th)

While 3,000 women die annually in England and Wales from the direct results of maternity, probably, at a most conservative estimate, 5,000 die from the late results of childbearing, including cancer of the cervix. That is to say, more than 8,000 women are lost annually.

At least 60,000 parous women, also, are crippled annually, many gravely, others, though less seriously injured, enough to cause ill-health and disablement. Constitutional disorders form an appreciable percentage of all cases; and they are more immediately serious than local lesions, apart from acute sepsis.

Trauma and infection are often associated, and comprise about 75 per cent. of all causes of disablement in the present conditions with proper preventive obstetrics and by skilled reparative surgery the disablement from trauma and infection could be much reduced.

To mitigate such a state of affairs as that described we must go further back than the antenatal period, and ensure a supply of healthy mothers by watching women from the neonatal period of life to maturity.

Report of an Unusual Case of Subacute Leucemia of Mixed Type With an Infectious-Like Onset*

FREDERICK R. TAYLOR, M.D., High Point, N. C.

A 39-years-old white filling station proprietor came to my office on August 18th, 1930, complaining of night-sweats and aching in his left chest. He stated that he believed himself to be in good health four weeks previously. At that time he drove to Bennettsville, S. C., a distance of about 100 miles. The night of his arrival in Bennettsville he was suddenly seized with aching in his legs and epigastrium, and a drawing sensation in his knees. He was nauseated at times for several days, and then, following the taking of some medicine, he had several attacks of vomiting. No hematemesis. Stomach has been sour at times. He has a lot of gas, passing much per rectum after a purge. His bowels, usually regular, have been *very* constipated since the onset of his illness. He states that another physician gave him a blood tonic, some ammonia, and some red medicine for pain. He is also taking B. B. B. pills for his bowels. The doctor's medicine seemed to upset him, so he left him and went to a lady chiropractor, who failed to help him. He has had no sore throat. He has had some cough for two or three weeks, but attributes this to taking cold from getting drenched at night by his excessive sweats. He has also felt a throbbing pain in his left chest, not synchronous with his heartbeats. At the very onset he had a swelling in the left groin with three or four hard kernels under it, the whole thing the size of a bantam's egg. He had one shaking chill two weeks ago. Just about this time the swelling began to gradually disappear from his groin. He is quite short of breath—can't stand the effort of pumping the tanks in his filling station. His feet do not swell. He has an occasional occipital headache, and a good deal of lumbosacral backache, but the backache has ceased recently. No urinary symptoms other than a very highly colored urine, which might be attributed to his profuse sweating. He says that he has lost 26 lbs. in 1½ mos., and for a while he lost about 2 lbs. a day!

His past history shows him to have been unusually free from most diseases, the only positive findings being that he had the usual children's diseases in childhood, mumps a second time 3 months ago without orchitis, and a Neisserian infection 10 years ago for which he was treated 2 or 3 months. He never had syphilis. He never had a surgical operation. He did have his left arm wrenched by a machine and two ribs cracked 2½ years ago.

His habits are not remarkable. His appetite, usually good, has been poor since the onset of his illness, though better for the past week. He eats a fairly well balanced diet 3 times a day. The first physician he consulted had his blood examined at a hospital and put him on liver, of which he is now eating about ½ lb. daily. He drinks water freely. He did drink about a pint of milk daily till 2 or 3 days ago, when he gave it up because he thought it caused gas to collect in his bowels. He takes one cup of coffee daily, not much tea, and no coca-cola. He did smoke 2 packs of cigarettes daily, but now smokes less than one. No alcohol, though he used to drink some. He got drunk once, and ever since that alcohol has made him sick. He was never a steady drinker. He has slept very poorly of late because of his drenching sweats. He has also felt feverish, though the first physician he consulted said his temperature was normal.

His father died of cancer of the stomach. Mother died of some gynecologic trouble, not cancer. Five brothers and sisters well. Two died of pellagra 6 or 8 years ago. One brother died suddenly, aged 63, cause unknown. His first wife died of influenza with pneumonia. Present wife well. Neither one had a miscarriage. No children.

Physical Examination: Height 5 ft. 7 in., wt. 140¼ lbs., standard wt. 152, temp. 98.5, pulse 110, resp. 21, B. P. 128/80.

Face shows very marked bronzing—this is not his normal color at all—that is rather rosy. Sclerae are not yellow—it is not jaun-

*Presented to the Section on Practice of Medicine, Medical Society of the State of North Carolina, meeting at Durham, April 20th, 21st and 22nd, 1931.

dice. Deflected nasal septum. Teeth very bad—lots of them carious and badly discolored. Mucosae very pale, except tongue is a rather beefy red. Skin pale except for bronzed face. Neck negative. The lower part of the chest expands very little with respiration—his breathing is done almost entirely with the upper half of the chest and the abdomen. Anteriorly, there is dullness to flatness on percussion from the 5th ribs down on both sides. Breath sounds are decreased, but not wholly absent in these areas. Heart appears normal—I did not make out any displacement of it. Posteriorly there is slight tenderness in the left suprascapular space. No unusual dullness posteriorly. Just below angle of left scapula there is cogwheel respiration. No rales heard, and no other abnormalities noted in chest.

Abdominal examination shows the liver extending three fingers' breadth below the costal margin, and a gross mass on the left, probably spleen, the size of a large grapefruit. Genitals negative. There are markedly enlarged inguinal glands on both sides, especially the left. These do not fluctuate. Rectal examination shows some external hemorrhoids. Otherwise negative. Extremities negative—no edema or varicose veins.

Urine a dark brownish amber, strongly acid, shows a light cloud of albumin, no glucose. A few hyaline casts, from 2 to 7 pus cells to a 1/6th field, and an occasional red cell. He had had a negative Wassermann two weeks previously. The blood count was diagnostic, and will be given in tabular form. I got in touch with the hospital where his first blood count had been done, and they reported that they had lost their record of the count, but that the technician clearly remembered that the white count was 8,000 and that the stained film showed all kinds of immature forms of white cells.

The results of my observations on the blood may be seen in the table. The patient was referred to Dr. P. W. Flagge for treatment with the x-ray, which was regulated by the blood picture. I was enabled to keep him under fairly close observation nearly five months. He died rather suddenly on January 10th of this year at 3:30 a. m. I went to see him in the early afternoon of that day, only to be informed of his death. I inquired why they had not called me when he was in ex-

tremis, and his wife replied that he knew he was going to die, and did not want a doctor present at that time! As the entire family seemed very appreciative of my efforts, I did not take this as a vote of lack of confidence, but as an individual peculiarity on the part of the patient. Most unfortunate, however, was the fact that when I got there his body had been removed to an undertaking establishment and had been completely prepared for burial, and an autopsy was unobtainable. I had fondly hoped to report this case with autopsy material to this section, but "the best laid plans o' mice and men gang aft aglee."

In the midst of his illness, Dr. Stephen Davis of Charlotte, who has been very keenly interested in leucemia, saw this patient with me. He was much interested in him, and I hope will discuss this report. In the later stages of his disease the patient developed partial blindness associated with a typical leucemic retinitis.

The course of his disease can be followed on the table mentioned.

Several features are of unusual interest in this case, which we may perhaps discuss with profit at this time.

1. The sudden onset of an infectious-like type.

2. The rather unusual picture 4 weeks after the apparent onset—drenching sweats being the leading symptom. The marked bronzing of his face was also of great interest.

3. The extraordinarily rapid loss of weight during the first 4 weeks of his symptoms.

4. The relatively low white counts — for four months 22,800 was the highest count obtained. Fifteen days before he died he reached the record count of 41,300.

5. The relatively high count of myeloblasts rather than myelocytes, showing, I felt, a peculiar malignancy of the process, as the myeloblasts are more primitive cells than myelocytes.

6. The mixed type of this disease, showing both splenomegaly and the blood cells of the myelocytic series, and involvement of lymphatic glands with some elements in the blood picture suggesting lymphatic leucemia. Mixed forms are, of course, usual in the acute leucemias.

7. The duration of the disease — shorter than the ordinary chronic type, but longer

than the typical acute leucemia.

8. The age of the patient. Acute leucemia is more frequent in childhood. Roughly speaking, we may say that acute leucemia is usually seen in the first 20 years of life, chronic myeloid leucemia in the second 20 years, and chronic lymphatic leucemia in the third 20 years.

9. The absence of hemorrhages, even though a number of teeth were extracted. The extractions were not done, of course, in any vain hope that removal of foci of infection could check the disease, but simply to relieve the suffering from toothache. Only one tooth was extracted at first because of the fear of hemorrhage. When this fear was discovered to be apparently groundless in this case, other teeth were extracted and the toothaches disappeared.

QUININE THERAPY IN MALARIA

(Manson-Bahr, Philip, London, in *The Lancet* (London) April 18th)

The ethylcarbonate, containing 81 per cent. of the alkaloid, has the advantage of being practically tasteless and of being readily absorbed, whilst other so-called tasteless preparations, such as the tannate and carbonate, are practically useless on account of their insolubility. The hydrochloride is generally regarded as the most useful preparation for general use, whilst the more soluble bihydrochloride is held in reserve for intramuscular and intravenous medication.

Only small doses of quinine are indicated in malarial cachexia; it is much more advisable to give suitable arsenical tonics and iron injections than to resort to continuous drenching with quinine.

Subtertian malaria trophozoites are extremely susceptible to the action of quinine even in small doses, while the sexual forms, or crescents, are extremely resistant. Thus it is comparatively easy to control the more urgent signs and symptoms with relatively small doses of quinine, yet when the patient is recovering and the fever is quiescent, crescents may be found in numbers in the blood stream and may persist for several weeks. Intravenous injections of quinine are indicated in the so-called pernicious forms of subtertian malaria, especially when the sporulating parasites are congregated in the capillaries of the brain, producing coma, or in the coats of the intestines producing choleraic diarrhoea or other forms of abdominal disease. The bihydrochloride should be used, in dosage of grs. 10 in 10 c.c.; of distilled water, injected into the median basilic vein. There is no indication for more heroic doses than this, as larger quantities are very apt to bring about too great a dissolution of the parasites and dangerous symptoms may ensue.

To my mind it is unquestionable that blackwater fever is an accident which occurs only in subtertian infections and not in the other two forms of malaria. In many cases I have noted that the exhibition of massive doses of quinine (by this I mean grs. 20-30) does certainly seem to precipitate an attack.

In quartan malaria large doses should be used and the maximum dose of grs. 30 should be persisted in longer than in benign tertian. Quartan is by far the most persistent infection and relapses may occur over as long a period as five years. The tendency of quartan infections to be associated with nephritis should also be noted, and it has been shown that the appearance of albumin in the urine in this infection is an indication for pushing the quinine dosage.

Plasmoquinine, in doses of 0.06 g. (gr. 1) daily, caused a rapid disappearance of benign tertian parasites from the blood of man, but had a lesser effect upon the ring forms of the subtertian parasite. Most remarkable, however, is its marked selective action upon the sexual forms. The doses originally advocated—0.25 g. or 0.12 g.—were obviously far too large and were often accompanied by alarming toxic symptoms.

It was then demonstrated that, not only was the therapeutic action of plasmoquinine greatly enhanced, but its toxic manifestations were greatly diminished, or rather neutralized, by the addition of a small amount of quinine. Hence the composition of *plasmoquinine compound* which contains 0.01 g. (gr. 1/6) of plasmoquinine with 0.125 g. (grs. 2) of quinine sulphate. The scheme of the dosage is to give the drug in full doses of 6 tablets daily for one week (i.e., plasmoquinine gr. 1 and quinine grs. 12 daily) with 3-days' interval between each weekly course for 5 separate weeks, as an anti-relapse treatment. I believe that plasmoquinine compound is a useful adjuvant to quinine treatment and in many circumstances an efficient substitute. It is easy to take, and is comparatively tasteless. Many people can tolerate it who are intolerant of quinine in ordinary therapeutic doses. It is in my opinion more efficacious in controlling benign tertian malaria than is pure quinine; it frequently cures an infection which appears resistant to pure quinine. It banishes the crescents from the blood in subtertian malaria. In appropriate doses it is readily taken and readily absorbed by children and it is readily borne by pregnant women, in whom it controls the fever while it does not predispose to abortion, as does pure quinine.

"Mass production" methods, with which the practice of tonsillectomy has been charged by many of its recent critics, has no place in the consideration of the tonsil and adenoid problem of children. The wholesale extirpation of tissues in school groups or institutional classes on the basis of a semiroutine hasty examination and "statistical conviction"—usually an uncritical expectation of benefit—has no warrant whatever today.—Ed. in *Jour. A. M. A.*

The Practical Application of the Hormone Test for Pregnancy*

W. Z. BRADFORD, M.D., and L. C. TODD, M.D., Charlotte, N. C.

The literature of recent years has been filled with the results of medical research in the field of endocrinology. Voluminous investigations have yielded startling knowledge of the ductless glands and their functions. Of great practical significance in the field of obstetrics and gynecology are the advances made in the study of the female sex hormone and the pituitary gland. This work has resulted in a new concept of many cases of irregular uterine hemorrhage, which subject may now be approached from the standpoint of disturbed physiology, and has likewise developed a ready laboratory method for the diagnosis of an existing pregnancy.

That the anterior lobe of the pituitary gland produces a hormone acting directly upon the ovary was first established by Evans and Long,² and later confirmed by Aschheim and Zondek,³ and other investigations.^{4, 5, 6} Certain changes produced in the ovaries of immature female mice by the implantation of pituitary glands, as well as by the administration of pituitary extracts, led to the designation of the pituitary gland by Zondek as the "motor of the ovary." These changes caused by the hypophyseal hormone consisted in growth of the follicles, hemorrhages into many of the larger follicles (blood spots), and luteinization of many of the follicles. These ovarian changes could be produced by no endocrine save the pituitary and placental extracts.

That there is a tremendous overproduction of the pituitary hormone during pregnancy was confirmed by Aschheim and Zondek,⁷ and others, thus further establishing the close relationship between the pituitary gland and the genital system. The hypersecretion of the anterior lobe during pregnancy is in keeping with the histological changes found in the gland by Erdheime and Stumme,⁸ consisting not only of a hyperplasia of the anterior lobe but a growth of chromophobe cells, characteristic of pregnancy. This growth, with its resultant overproduction of pituitary hormone, is controlled by the gestation as the pituitary hormone quickly disappears in the

puerperium. Additional investigation seems to indicate that the placental substance elaborates a hormone simulating the pituitary gland, thus establishing a cycle from placenta to the pituitary and then to the ovary and back to the uterus.

The actual mechanism of the Aschheim-Zondek test is not yet clear. Kraul⁹ points out that several substances found in the urine of pregnant women are probably responsible for the reactions observed. Not only the follicle-stimulating hormone of the anterior pituitary is present, but also a hormone from the placenta so that the reactions observed in the test animals are due, not only to the injection of the hormone, but to the stimulating effect upon the pituitary of the test animal by the injected placental substances, together with the resultant increase in pituitary hormone from this action. Further, considerable evidence has been produced by Collip¹⁰ that the placenta is the possible source of the large amounts of this hormone found in the blood during pregnancy. The action of the placental hormone resembles in many ways that of the secretion of the anterior hypophysis, either directly upon immature ovaries or indirectly by stimulating the anterior pituitary, but in either case producing maturation and luteinization in immature ovaries.

These facts form the basis of the pregnancy hormone test and its many modifications, named for the original investigators Aschheim and Zondek, who first established that the urine of pregnant women is capable of producing the same biological effect as the anterior lobe of the hypophysis.¹¹ The presence of the hormone of the pituitary body is diagnostic in the early stages of gestation and is indicative of growing placental tissue. Such is the overproduction of nature in anything that pertains to propagation, that the production of the pituitary hormone in the organism and its massive excretion in the urine during pregnancy is 1,000 times the normal amount to be detected.

The detection of this hormone for diagnostic purposes was first accomplished by repeat-

*Presented to the Mecklenburg County (N. C.) Medical Society, Charlotte, May 5th, 1931.

ed injections of urine into immature, female, white mice approximately three weeks of age. Five animals were used and 6 graded doses were administered. The animals were killed at the end of 100 hours and the typical changes in the ovaries, namely, follicular growth, follicular hemorrhage and luteinization, were found diagnostic of pregnancy in 98.6 per cent. of all cases.

This reaction becomes negative about the 8th day of the puerperium but remains positive as long as living placental tissue is in contact with maternal blood. The strongly positive reactions found in cases of hydatidiform mole and chorioepithelioma, 12 times the strength of the reactions found in the 2nd month of a normal gestation, further prove that the living placental tissue is responsible for the reaction and not the pregnancy *per se*.^{12, 13} This observation is further borne out in cases of ectopic gestation where the reaction is positive only while the fetus is actively growing in the tube, but with rupture or organization of the hematosalpinx a negative reaction quickly follows. *For these reasons the test must be regarded as a test for the hormone and not a new test for pregnancy.* Negative reactions may occur in the presence of a dead fetus as observed in old organized ectopics and positive reactions in the presence of actively growing placental tissue without true pregnancy, as hydatidiform mole.

Several difficulties have prevented the universal adoption of this test for an early gestation. A ready supply of immature female white mice weighing from 6 to 8 grams is not always available. Aschheim surmounted this difficulty by maintaining a colony of 10,000 white mice. Likewise the fact that the number of injections requires considerable effort, that 5 days must elapse before the reaction can be determined and lastly the necessity of microscopic examination of the ovaries in 17 to 20 per cent. of the cases have all diminished the efficiency of the test.

However, its accuracy is well established. Aschheim and Zondek used it in a preliminary series of 300 cases with an accuracy of 98.6 per cent., and have since corroborated this efficiency of the reaction in 1,000 cases. In Schaefer's Clinic in Charlottenburg 100 cases were examined with a correct incidence

of 98 per cent. In various hospitals of Vienna and St. Petersburg excellent results are claimed while the Woman's Hospital in New York has reported 50 cases with 1 error.

One of the most interesting phases of the practical application of the hormonal pregnancy test has been carried out under the direction of Professor Johnstone of the University of Edinburgh with the establishment of a Pregnancy Diagnosis Station.¹⁴ This service is maintained for physicians over the United Kingdom and Ireland. During the first 6 months 360 specimens were examined; follow-up revealed a correct diagnosis in 97 per cent. As the pituitary hormone is known to be extremely labile, not resistant to heat and easily destroyed, the results are rather remarkable considering the lapse of time between the collection of certain specimens and their injection into the test animals.

In attempting to improve the method various modifications have been tried of which the most efficient have been published by Reinhart and Scott¹⁵ of Ohio State University, and Friedman and Lapham¹⁶ of the University of Pennsylvania. These investigators availed themselves of the discoveries of Hammond and Marshall,¹⁷ who in studying the reproductive activities of the rabbit in 1925 found that the ovaries of the isolated, unmated female contain neither corpora lutea nor corpora hemorrhagica, as this animal does not ovulate until after coitus. The ferret and the cat are also known to have a similar ovulation cycle.

Friedman in 1929¹⁸ demonstrated ovarian activity in rabbits within 24 hours following an intravenous injection of urine obtained from a case of pregnancy. Hill and Parkes in 1930¹⁹ found that the ovary of the rabbit shows immediate activity in the form of follicular hyperplasia, corpora hemorrhagica and luteinization upon the injection of urine containing anterior pituitary hormone. As the animal is known to be extremely resistant to acute infections, intravenous injections of urine were followed by no severe reaction and the ovarian changes were prompt and marked. Reinhart and Scott in a series of 50 cases obtained 49 positive reactions with a single intravenous injection of 10 c.c. of urine upon examining the ovaries within 24 to 28 hours.*

COMMENT

The practical value which this test offers the physician today is apparent. The differential diagnosis between primary and secondary amenorrhea is often one of difficulty. To have at his command a ready method of definitely establishing the existence of an early gestation increases his armamentarium and saves him from the unsatisfactory position of depending upon another examination after a month or 6 weeks. As the pregnancy hormone is produced in large quantities immediately following conception, diagnosis may be reliable within a very few days after the first missed menstrual period.

In certain cases of active pulmonary tuberculosis or cardiac disease there is a cessation of menstruation, and in such cases the existence of a pregnancy may be confirmed or refuted in its earliest stages before it has advanced to menace the maternal life and when steps necessary may be safely undertaken.

There are other pitfalls in the field of gynecology to be avoided by the employment of this test. The differential diagnosis between a soft fibroid and a gestation, or an ovarian cyst and pregnancy, particularly about the menopause, may be definitely established within 24 hours. The diagnosis of an actively growing ectopic pregnancy may also be confirmed by the positive reaction.

One of the most interesting findings has been the strongly positive reactions obtained in the presence of hydatidiform mole and chorioepithelioma. The persistence of this reaction following the removal of a mole is indicative of incomplete removal or of malignant degeneration, and, in the face of repeated curettings, may be the ground for an indicated hysterectomy.

CLINICAL CASES

The development of the various methods of demonstrating the hormone which influences the maturation of the ovarian follicles, and which is found in the urine during pregnancy in enormously increased quantities has been briefly reviewed. We used the original Aschheim-Zondek technic in three cases and have since applied the quicker and more definite method of Reinhart and Scott in 13 others.** Thus far we have not found the test in error. The earliest pregnancy in our series giving a positive reaction was one of 7 days dating

from the expected first day of the first missed period; the next earliest was one of 9 days while the other positives were seen in pregnancies more advanced—10 days, 15 days, 4 weeks, 7 weeks and up to 7 months' duration, which latter was used as a positive control in the original test with mice. The test with rabbits was negative in a case of hematosalpinx and it was concluded therefrom that, if the pathology was due to a tubal pregnancy, death of the embryo had supervened and no living placental tissue was present. It was negative in a case of suspected pregnancy with uterine enlargement which enlargement was shown later to be due to fibroids. It was positive in a patient at the menopause with uterine fibroids. The subsequent course indicated that the positive finding was correct.

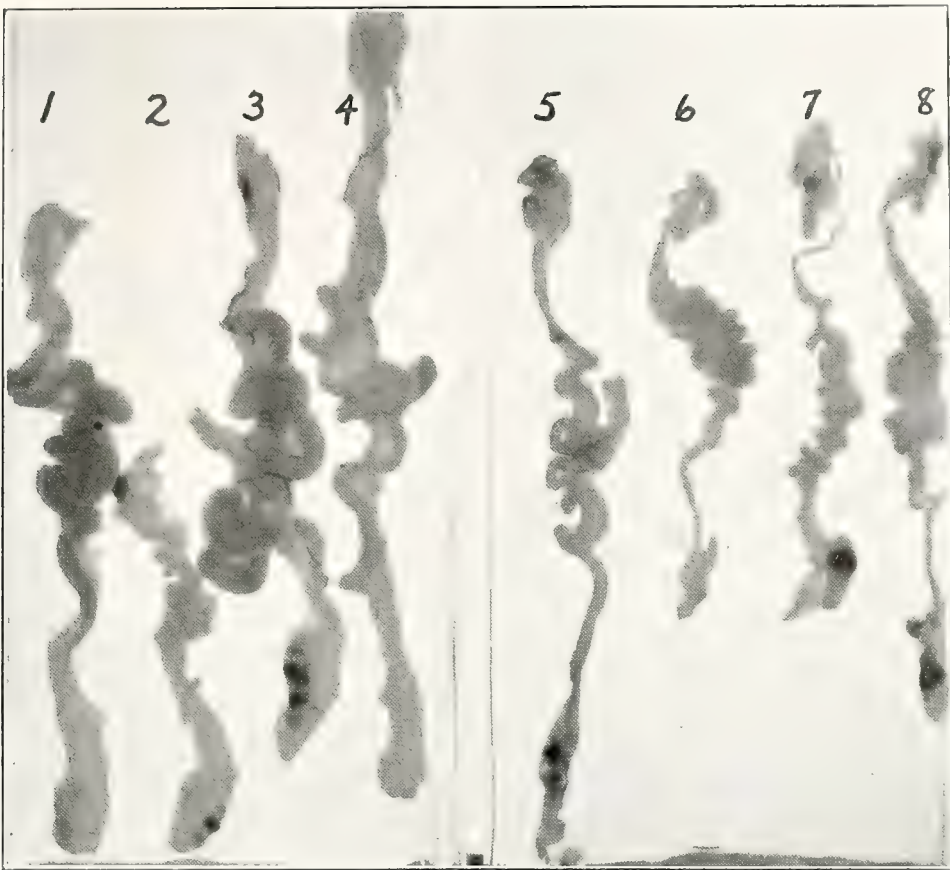
*Reinhart and Scott in their latest article (*Jour. A. M. A.*, Vol. 96, page 1565, May 9, 1931) state that any dosage between 5 and 15 c.c. may be used with success. They do not kill the animal but perform a laparotomy under anesthesia and examine the ovaries for corpora hemorrhagica. In the absence of positive findings the abdomen is closed and the animal reinjected with 5 c.c. of the same urine, whereupon the ovaries are re-examined through the same incision 24 to 36 hours later for a final check.

**Since presenting this report nine additional cases have been examined by this method and the diagnosis has subsequently been clinically confirmed.

The Technic With Rabbits

Healthy isolated non-pregnant does, fully developed sexually, 3 to 4 months old and weighing four pounds or more, are used as the test animals. They should not have been with the male for the full gestation period previously—30 days—and should have been isolated even from other females for 7 to 10 days previous to use.

The urine of the woman who is being examined for pregnancy should be the first specimen passed in the morning, as the hormone is more abundant in this concentrated specimen. It is preferable, but not necessary, to collect it under precautions against contamination and to use it as soon as convenient after collection. Rabbits stand contaminating bacteria well and some writers have used even bed-pan specimens. Injection is preferably made within an hour after collection as the hormone is very labile. If a longer time is necessary before it can be used, the specimen is better chilled during the interim and warmed carefully to blood temperature just before use. However, one of our strongest positives was obtained with a specimen sent in a thermos bottle by special



Internal genitalia of 8 rabbits used in the hormone pregnancy test. In each case the animal was injected intravenously with 10-12 c.c. of the patient's urine 24 hours previous to autopsy.

- No. 1—Positive—Pregnancy 9 days duration
 2—Positive—Pregnancy 10 days duration
 3—Positive—Pregnancy 4 weeks duration
 4—Negative—Male patient
 5—Positive—Pregnancy 7 days duration
 6—Negative—Female patient.
 7—Positive—Pregnancy 4 weeks duration
 8—Positive—Pregnancy 2½ months duration

delivery mail and used 8 hours later.

Ten to 12 c.c. of the urine is injected intravenously into the marginal vein of the selected rabbit; 24 hours later the animal is killed with ether or a blow on the head and the internal genitalia examined.

A positive reaction is one in which corpora hemorrhagica are found in varying numbers in the ovaries; that is an artificial ovulation brought about by the injection of the pregnancy hormone. Injections of urine from human males and non-pregnant females do not produce the reaction in the ovaries of the

rabbit. We have seen as many as 5 large corpora hemorrhagica, 9 large corpora lutea and innumerable smaller corpora lutea, as well as a diffuse luteinization of both ovaries, in a single test animal. Microscopical examination of the rabbits' ovaries is apparently not necessary for a diagnosis, as the ovaries are large enough to give a good, clear-cut reaction visible to the unaided eye. When infantile mice are used for the slower test as in the original Aschheim-Zondek technic, microscopic examination was found necessary by these investigators in about 1/5 of the cases.

Aschheim regarded the finding of one corpus luteum as positive evidence in the infantile mouse, but in the adult rabbit the criterion of a corpus hemorrhagicum must be used.

CONCLUSION

In conclusion we would reiterate the following facts:

1. Research in the field of endocrinology has yielded at least one valuable clinico-pathological procedure, in the nature of a most practical, efficient and ready method of diagnosing an existing pregnancy.

2. This procedure is a test for a hormone found in the presence of actively growing placental tissue.

3. The modification of the original Aschheim-Zondek test offers the following advantages:

A—Only one rabbit is necessary, an unmated female which may be readily available at all times.

B—Only one injection of urine is necessary, this readily administered through the marginal vein of the lobe of the ear.

C—The findings are definite in from 24 to 28 hours, making the test applicable to the hospitalized patient where a quick diagnosis may be essential.

D—The findings are gross and easily interpreted without microscopic sections.

References

1. EVANS and LONG: *Proc. Nat. Acad. Science*, 8; 1922.
2. EVANS and LONG: *Amer. Jour. Physiology*, 89; 458, 1929.
3. ZONDEK and ASCHHEIM: *Klin. Wchnschr.*, 6; 1927.
4. SMITH and ENGLE: *Amer. Jour. Anat.*, 40; 159, 1927.
5. PHILLIP SMITH: *Amer. Jour. Physiol.*, 80; 114, 1927.
6. SMITH and ENGLE: *Amer. Jour. Anat.*, 45; 158, 1930.
7. ASCHHEIM and ZONDEK (Plaut): *Amer. Jour. Ob. and Gyn.*, 19; 335, 1930.
8. ERDHEIME and STUMME: *Beitr. Z Path. Anat.*, 46; 1909.
9. KRAUL, L.: New Observations on the Action of the Anterior Pituitary. *Jour. Ob. and Gyn.*, 31; 3 March, 1931.
10. COLLIP, J. B.: Placental Hormones. *Canadian Med. Jour.*, 23; 631, Nov., 1930.
11. ASCHHEIM and ZONDEK: *Klin. Wchnschr.*, 8; 157, 1929.
12. FANZ, J. I., and GAULT, E. S.: Hydatidiform mole as a cause of positive reaction in the Aschheim-

Zondek Test. *J. Lab. and Clin. Med.*, 16; 27, Oct., 1930.

13. MOCK, H. C., and CATHERWOOD, A. E.: Aschheim-Zondek reaction in hydatidiform mole and malignant chorioepithelioma. *Amer. Jour. Ob. and Gyn.*, 20; 670, Nov., 1930.

14. JOHNSTONE, R. H.: Physiology of menstruation. *Amer. Jour. Ob. and Gyn.*, 19; 167, Feb., 1930.

15. REINHART and SCOTT: Hormone test for pregnancy. *Amer. Jour. Clin. Path.*, 1; 113, March, 1931.

16. FRIEDMAN and LAPHAM: Simple, rapid procedure for diagnosis of early pregnancy. *Amer. Jour. Ob. and Gyn.*, 21; 3, March, 1931.

17. HAMMOND and MARSHALL: Reproduction in the Rabbit. *Oliver and Boyd*, London, 1925.

18. FRIEDMAN, M. H.: Ovulation produced by Injection of urine from pregnant women. *Amer. Jour. Physiology*, 90; 617, Nov., 1929.

19. HILL and PARKES: *Jour. Physiology*, 69; *Proceedings* 23, 1930.

MEDICAL COWARDS

(Editorial in *The Journal of the Indiana State Med. Asso.*, May)

The average physician is a moral coward. The richest man in the town can own insanitary and disease-breeding rental property; the leading newspaper can carry all sorts of fraudulent medical advertising and publicly uphold medical quacks; the leading preachers may solicit patronage for quacks and members of pseudomedical cults; the bankers may defy quarantine and other health regulations; the public school teachers may disseminate pernicious and false teaching concerning the value of smallpox and diphtheria prevention; the christian scientists may be responsible directly or indirectly for any number of preventable deaths; and in fact there may be almost any kind of inconsistent, unreasonable and highly detrimental things occurring in the community and not a single physician will offer a word of protest. Is it any wonder that health matters and even the practice of medicine are getting under lay control and dictation?

HOSACK BED FOR SICK AND NEEDEY PHYSICIANS

(*New York Academy of Medicine's Annual Report, For the Year 1930*)

Attention is directed to the following extract from the will of Mrs. Celine B. Hosack:

"I do give and bequeath unto my executors, hereinafter named, the sum of Ten Thousand Dollars, in trust, to apply and pay the same (or so much thereof as may be necessary) to The Roosevelt Hospital in the City of New York, to purchase a bed which, in memory of my husband, shall be known as the Hosack Bed, and which shall be occupied from time to time by such sick and needy physicians as may for that purpose be named or designated by the President and Treasurer for the time being of The New York Academy of Medicine." [Presumably the intention is to cover maintenance.—*Edr.*]

Case Report

AVULSION AND RECONSTRUCTION OF THE SCROTUM

JAMES F. ROBERTSON, M.D.

Masonic Temple Building, Wilmington, N. C.

While leaning over the moving propeller shaft of an inboard motor-boat this patient's trousers were entangled in the shaft, which wound not only the clothing, but the underlying external genitalia, also, around the shaft. There was complete avulsion of the skin and subcutaneous fat of the penis, scrotum, perineum and pubes, leaving the corpora cavernosa and spongiosa held together only by connective tissue; and the testicles stripped of skin and tunica vaginalis, hanging by the vas and remains of the cord free on each thigh.



FIG. 1.—Drawing to illustrate condition immediately after the accident. Note complete absence of scrotum and skin of penis.

Unfortunately the original photograph of the injury was spoiled, but the drawing depicts fairly well the condition with which we had to deal. There was a complete absence of scrotum, and the whole wound was grossly soiled by grease and dirt. A primary debridement was done immediately, and after 10 days each testicle with its cord was buried in a pocket under the skin and fat of its corresponding thigh. At the same time a pedicle flap was cut from each groin and turned down to cover one-half of the penis. After three weeks the pedicles of the penis flaps were severed, turn-



FIG. 2.—Showing pedicle grafts sutured to penis and testicles buried under the skin and fat of each thigh. Arrow points to left testicle.



FIG. 3.—Front view showing the completed scrotum and penis.

ed and sutured to cover the proximal end of the penis and pubic region. Due to the failure of blood supply these flaps had to be removed and in their place Ollier-Thiersch grafts placed. From each thigh, an elliptical, measured, pedicle flap in the center of which was the testicle with its cord, was cut and sutured to its fellow from the opposite thigh to form a scrotum with testicles and cord in situ. Several minor plastic and skin graft

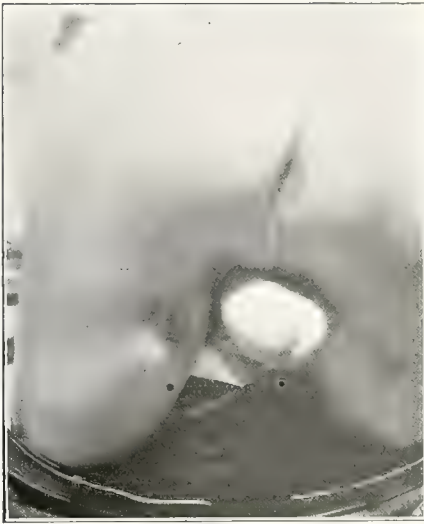


FIG. 4. —Rear view showing the scrotum to be free of attachment to the thighs.

operations were performed at later dates to cover raw surfaces, get rid of contractures and scar tissue in the thigh, and to move the cord on each side away from the thigh and towards the pubes.

Notes On Diagnosis and Treatment

A Column Conducted By

THE STAFF OF THE PARK VIEW HOSPITAL
Rocky Mount, N. C.

For this issue, B. C. WILLIS, M.D., and
C. T. SMITH, M.D.

In more than half the cases of ECTOPIC PREGNANCY, ruptured and unruptured, the diagnosis is missed.

Points to be remembered; sudden violent onset of general abdominal pain—following straining at stool, or general housework; marked anemia, general pallor—in colored peculiar whitish yellow color of palmar surface of hands; subnormal temperature; rapid, weak pulse; air hunger; thirst; history of either no pregnancy or 3 to 5 years since last; irregular or modified menstruation, occasional spotting or darker flow than normal; some discomfort in lower abdomen for past 2 to 6 weeks; cramp-like pains, other lighter similar attacks; fainty or weak spells. If much hemorrhage has taken place and gets beneath diaphragm, pain in head of humerus: in two recent cases of extensive hemorrhage this

sign was present, however, it occurs more frequently in rupture of spleen.

The leucocyte count is usually 13,000 to 20,000, 70 to 90 per cent. polynuclears; reds 2 to $3\frac{1}{2}$ millions, hgbn. 40 to 80 per cent. Abdominal examination shows tympanites, with small amount of fluid in flanks disclosed by turning patient from side to side and percussing. Vaginal examination should be made with great caution and only when in hospital and ready to operate for fear of inducing or increasing hemorrhage. Occasionally vaginal puncture is of great value and has revealed the diagnosis in a few of our cases.

Treatment is essentially surgical. If no donor is handy use free blood from cavity, tsraining through gauze and introducing into vein as in citrate method of transfusion. We have saved probably a half dozen lives by this method. Remove only clots in those not gravely ill, as the peritoneum rapidly absorbs liquid from the cavity. Pour a pint or more of warm normal salt solution in cavity and close without drainage.

Three ounces of 2 per cent. sodium chloride to reverse the peristalsis is useful in essential vomiting. It may stop the vomiting and does supply the needed chlorides.

Inhalations of carbon dioxide for hiccough goes one better the time-honored treatment of holding breath and thereby increasing plasma carbon dioxide.

The soft eyeball of diabetic coma has not been found in any other coma. Furthermore sugar in the urine of a comatose patient does not signify diabetic coma. The acidosis, which causes the coma, should be demonstrated before making the diagnosis of diabetic coma.

Adrenaline combats ordinary shock by raising pressure, insulin shock by releasing sugar from the liver. Incidentally it stops the pains of threatened abortion.

The patient with achlorhydria or marked hypochlorhydria should be strongly suspected of syphilis.

Hydrochloric acid is not only important from the standpoint of stomach digestion but also is essential for the formation of secretin and for pancreatic digestion.

Small doses of phenobarbital in hypertension help eliminate the psychic influence and make the patient more comfortable.

Calcium chloride, intravenously, is antipruritic and to some extent antispasmodic. It is

useful in relieving the pain of salpingitis and epididymitis.

Castor oil is helpful in the chronic diarrheas of pellagra and tuberculous enteritis.

The x-ray gives no help in diagnosing iliac strain, (the only contribution of osteopathy to medical science) but strapping of the pelvis gives relief.

Clinical Comment

A Column Conducted By

L. G. GAGE, M.D., Charlotte, N. C.

The various preparations of liquid mineral oils are ordinarily used with complete abandon by both medical profession and laity upon the theory that it is absolutely non-irritating and performs a valuable function in "Lubricating" the intestinal tract. It is used particularly freely in spastic conditions of the colon.

It has been my experience that many people are more uncomfortable when taking mineral oil than they are when not taking it. Strange to say the symptoms that they complain of most are abdominal distention, pain and the passage of gas. This is probably due to the effect of the oil which produces an anerobic condition in the intestinal tract by coating over the particles of undigested and partially digested food. This covering property of the oil may prevent also contact of digestive enzymes with food particles. This is substantiated by the fact that these people usually pass oil in a non-emulsified condition.

A case in point is a patient who had been taking mineral oil for a year with daily abdominal pain. She always passed the oil in a non-emulsified condition. Substitution of psylla seed for oil caused entire disappearance of pain.

Habit good and bad is still the most important factor in regulation of the bowel movements and any agent should be used only with the idea of its eventual entire elimination. It is surprising to see some apparently hopelessly stubborn cases respond to an effort to establish regular habits.

HISTORICAL MEDICINE: NATURE'S OWN REMEDIES

(Williams, Rendell, Toronto, Med. Jour. and Rec., May 20th)

Extracts from old Dr. Thomas Fuller's *Pharmacopoeia Extemporanea* (2nd English Edition, 1714):

Priapus of Buck, an almost infallible Secret against

involuntary Uresis or of Sea Horse for a Restorative Caudle, Crab's Eyes, in an Intermitting, Vagous, irregular or a vulnerary Fever. Adeps Humanus (Human Fat) Fuller recommends in an Unguent for an Atrophy; while as to the Human Cranium, "in Compliance with the Custom of Practice" he gives as an ingredient in Cinnabar Pills "against an Epilepsy and Convulsion Fitts," but he declares that he abominates it—"For," he says, "I take a Man's Skull to be not only a meer dry Bone, void of Vertue, or any manner of Effect, but also a nasty, mortify'd putrid, carrionish Piece of our own Species, Man." Most of us will agree with him in this as also in the case of Mummy, of which he speaks in the most disparaging terms while prescribing it in Vulneraries and Traumaticks. It is "black cadaverous Flesh, wrapp'd up in foul Rags and is most usually such as died of some noisome Disease So far from being fit to be taken into our Bodies as a Medicine, that it is, for the most part an inwhole-some and prejudicial Thing."

Dr. Baynard, said that "Intempestive and over Blistering hath destroyed many Men, and they (i.e., Spanish Flies, Cantharides) act so according to the Nature of the Devil, that he believes old *Beelzebub*, that Prince of Flies to be nothing else but a great Cantharid."

John Wesley in his *Primitive Physic* first published in 1747, did advise Zibethum Occidentale, i.e., Stercus humanum, for films of the eye, Stercus bovinum for a hot plaster and that of the Goose for a Cancer-plaster.

Fuller employs that of the mouse in the Crinific Unguent against Baldness—"the Forepart of the Head only is liable to be bald, saith Aristotle," *Mais nous avons change tout cela.*

THE STRANGE CASE OF DIABETES

(From Editorial Minnesota Medicine, June, 1931)

It is startling to learn that the mortality from diabetes in this country has shown a decided increase in spite of the discovery of insulin. It seems impossible. So striking has been its effect that the impression has been given by no less authority than Dr. Joslin that there is no excuse for a diabetic dying from his diabetes. In view of the known facts, it seems highly probable that the incidence of diabetes in this country has greatly increased. It is not unreasonable to look for some fundamental error in our national diet to account for the picture. The increase in the per capita consumption of sugar in this country from 79 pounds in 1915 to 110 pounds in 1927 is suggestive, if our ideas of obesity and overconsumption of carbohydrate as etiological factors in diabetes are correct. Here is a definite opportunity for the medical profession to advise the public of the probable danger that exists in the present-day overindulgence in candy and other sweets.

DEPARTMENTS

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D., *Editor*

SALUTATORY

With this issue *Southern Medicine and Surgery* is inaugurating something unique in medical journalism. So far as I can learn, it is the only medical journal in the world that has a department entirely devoted to the general practice of medicine. It is exceedingly appropriate that it should be the first in this field, for its editor espoused with his usual vigor the cause of the general practitioner when it took as much courage as would be required to finance a chain of barber shops in Russia. Now, however, it appears that the family doctor is coming back into his own. The Committee on the Costs of Medical Care and the President of the A. M. A. are scrambling over lesser lights in proclaiming that the family doctor is now and ever shall be at the head of the medical procession.

It came as a great surprise to the new editor of the department when a letter from my good friend Dr. Northington informed me that "You are to be, in fact you are, Editor of the Department of General Practice!" So high is my regard for the editor of the journal that it hardly occurred to me not to accept the commission, even though realizing it will take much time and labor to do it right, and though fully conscious of my own shortcomings. It may be confessed being affected with that incurable malady, *cacoethes scribendi*, which in my case is both hereditary and acquired, made me rather welcome such an inviting scratching post as *Southern Medicine and Surgery*.

Another reason for accepting the responsibility is the wonderful range it offers. To paraphrase Bacon's famous phrase, I am taking all medical knowledge to be my province. "Province", let it be understood, does not mean "Possession"; but rather the territory over which I may roam. Please note that a general practitioner's work is theoretically unlimited, hence as his spokesman it will be my privilege to trespass upon the premises of any of the other department editors without being shot at.

Another advantage of the job is the marvelous opportunity it affords to air my pet views upon various subjects. This privilege, I understand, is subject to editorial censorship; but knowing that Dr. Northington and I hold many bolshevistic views in common makes me feel that there is little to fear from his blue pencil.

Still another appeal is the selfish one that an additional incentive will be furnished to keep up with medical literature. The experience of many years in teaching a class of nurses has convinced me that a teacher learns far more than he teaches; and I imagine the same is true of an editor.

I have not yet formulated a definite plan for this new department. In this first appearance I simply want to talk to the readers of the journal informally, without using the editorial "we". It will be my aim to present each month one or more topics of interest to the men in general practice. These topics may be selected from current medical literature, from the personal experience of myself or a colleague, or from information gleaned from medical meetings. A book of unusual interest may be reviewed from time to time. I shall also feel free to discuss medical policies, medical economics, and subjects on the borderline between the interests of medicine and of the public.

For years I followed daily the comments of that wittiest of columnists, Franklin P. Adams—"F. P. A." Occasionally he would turn over his column to a "guest conductor". I hope that any subscriber to *Southern Medicine and Surgery* who wants to contribute some thought for the good of the family doctor will send it to me, and act as guest conductor of my department. And suggestions and criticisms of all kinds will be gladly received and used as far as possible.

THE PAPERS AND SPEECHES OF JOHN CHALMERS DA COSTA, published this year by Saunders, is perhaps the most fascinating example of what a medical man can do with a pen, that has appeared since Osler's *Aequanimitas and Other Addresses*. Those who had the privilege of hearing Dr. Da Costa's lec-

tures on surgery know the treasures to be found within the covers of this book. Those who never heard him should lose no time in getting acquainted with the wit and the wisdom contained therein. There is no man living who can say more in a given number of words than "Jack" Da Costa. It is doubtful, however, if any of his students realized, when revelling in his use of words, the depth of scholarly research and philosophy that lay under the surface. Not long ago a man who had been closely associated with him for 30 years told me that Da Costa had the most brilliant mind he had ever come in contact with.

It would be useless to enumerate all the articles in the book, and it is difficult to select the best ones. The first article, "Medical Paris During the Reign of Louis Philippe", is packed full of medical history and contains character sketches of the famous surgeons of that famous period. "The Trials and Triumphs of the Surgeon" is a brilliant discussion, full of such pithy epigrams as "When a man becomes an embodied grievance there is generally something wrong with him"; "A good many adopt matrimony for a profession"; "A man who regards the dollar mark as the flowing curve of faultless beauty doesn't belong among us"; "His headlight, like the light of the glowworm, is on the wrong end;" "Many a man who is brooding over alleged mighty discoveries reminds me of a hen sitting on billiard balls"; "A fashionable surgeon, like a pelican, can be recognized by the size of his bill;" "Diagnosis by intuition is a rapid method of reaching a wrong conclusion". "The Old Blockley Hospital" is a fascinating reminiscence. It contains his famous sketch of the Blockley politician, which applies very well to the great majority of other politicians. Among other things, he said "The Blockley politician was as utterly insensible to all criticism as a stone dog would be to a vote of thanks. * * * He resembled a corkscrew in the fact that the more crooked he was, the more pull he had. * * * He was apt to boast that whiskey never gave him a head, which only goes to prove that whiskey is not more powerful than the Almighty. * * * He seldom wore cuffs, and his wrists always presented a neglected and undecorated appearance without handcuffs. He was apt to boast that he was self made, and I always regarded it as noble of him to

assume the responsibility. He kept his party faith, and everything else he could get his hands on".

"The Old Jefferson Hospital"; "The Surgeon, the Patient, and the Clinical Diagnosis"; "Behind the Office Doors"; and "Certain Tendencies in Medicine" appealed to me as being particularly good, though it is only separating good wheat from better wheat when any discrimination is made. No medical man will make a mistake in buying this book for his library. Its reading will make him a better doctor and a better educated man.

ORTHOPEDIC SURGERY

*For this issue, AUSTIN T. MOORE, M.D., Editor
Columbia, S. C.*

ON THE PREVENTION OF DEFORMITIES AND DISABILITIES DUE TO JOINTS WHICH HAVE BECOME ANKYLOSED IN BAD POSITION

The old adage, "An ounce of prevention is worth a pound of cure", is applicable to many of the reconstructive problems with which an orthopedic surgeon has to deal. Particularly, is this true regarding joints ankylosed in bad position. This responsibility frequently has to be borne by the medical man or general surgeon who handles the case during the acute period. It is surprising how many physicians either fail to appreciate the seriousness, or are lacking in the understanding, of how to properly handle joint conditions which may lead to permanent stiffness.

Whether the case is an arthritis, peri-arthritis, generalized soft-tissue infection, crushed injury or what not, one should always bear in mind the possibility of permanent stiffness and the joint must be kept in the best position for functional use.

In very freely movable joint of the body, there is a certain position of predilection if the joint is to become stiff. To allow ankylosis to occur in any other than this position is to do a great injustice to the patient. Preventive medicine is now being extensively advocated. It can be practiced to great advantage in this type of case.

One has to visit only a short time any moderately active orthopedic center to see numbers of pitiful cases of terrible crippling and disability due to ankylosed joints in bad position. In some of these cases tremendous bene-

fit can be given. Others may always be more or less crippled in spite of everything that is done. With the perfection of technique in arthroplasties, a great deal can be hoped for. But how much better it is to have the joint in good position before an arthroplasty is attempted. One can see hands with rigid fingers in extension from prolonged splinting or with the finger nails buried in the palm from no splinting at all.

A wrist, if unprotected, usually becomes stiff in flexion, which practically destroys the hand since the fingers have scarcely any strength when the wrist is acutely flexed. An elbow or shoulder ankylosed in bad position may be unsightly as well as disabling. The kyphosis or scoliosis in an ankylosed spine may be very noticeable. In the lower extremities, stiffened joints may cause terrible deformities or make locomotion impossible. One extremity may appear to be several inches shorter than the other due to ankylosis of a hip in marked acute flexion or adduction. Ankylosis in extreme adduction is frequent and makes any attempt at walking awkward and embarrassing. Knees usually ankylose in varying degrees of flexion and make locomotion difficult. There may be complete subluxation of the knee joint. Very disabling conditions may be seen in the foot and ankle joints—usually in equinus with marked varus or valgus.

With the intelligent use of relatively simple mechanical appliances any physician can prevent all these deformities. A little extra time is demanded and the full coöperation of the patient is absolutely necessary. A patient may be very satisfied with his stiff joint because it is in good position and its function not greatly impaired. A Buck's extension, plaster cast or simple splint is usually all that is necessary for the extremities. A special fracture bed or frame may be demanded to keep the spine in correct position. The strongest group of muscles about any joint can always be determined and their pull counteracted by suitable means.

When ankylosis is expected the following positions are given as best suited to the majority of cases. Certain individual cases may require different positions. The foot should be kept straight under the leg with the arches well moulded; the ankle in slight plantar-flexion, about 15 degrees. The knee in slight flexion, 10 to 20 degrees. Slight flexion of the hip usually advisable and a variable

amount of adduction may be necessary to correct shortening. The shortened extremity is corrected by the pelvis tilting to the affected side when the patient walks. The spine should be kept straight and the normal curves preserved. The shoulder should be kept abducted to about 45° with 10 to 20° of flexion and neutral rotation. In this position the finger tips can be made to touch the mouth with no motion of the scapula. Motion of the scapula from this position will almost compensate for the stiffened shoulder joint. The best average position for the elbow is a little less than a right angle. The wrist should be slightly extended. With fair motion of the thumb and the fingers fixed in moderate flexion the amount of work that can be done with the hand may be entirely satisfactory.

Most occupations can be continued with any one joint in the body ankylosed, provided it is in good position and painless. The jaw is an exception to this statement, but fortunately arthroplasty in this region can usually be done without difficulty and generally gives satisfactory results.

UROLOGY

*For this issue, ROY W. UPCHURCH, M.D.
Danville, Va.*

PROSTATITIS AND SEMINAL VESICULITIS

In reviewing more than 200 office case records, it was surprising to note that the most common complaint was a low dragging-down back pain, which in most cases on examination was found to be due to an infection of the prostate and seminal vesicles. The purpose of this article is merely to emphasize the importance of a routine rectal examination of all patients complaining of back pain and to outline a few facts that may be helpful to the physician in general practice in familiarizing himself with pathological changes in the prostate gland, as felt through the rectal wall.

Embryology and Anatomy: The prostate gland consists of five lobes, one anterior, one posterior, one middle, and two lateral. Between these five lobes, the posterior urethra passes. In the process of development the anterior lobe degenerates and forms the anterior commissure. The middle and two lateral lobes are involved in benign hypertrophy usually seen in men beyond middle age. Carcinoma affects the posterior lobe. Infection may involve the entire gland; usually it is limited to one or both lateral

lobes. The gland is composed of three different types of tissue, muscular, fibrous and adenomatous. When the adenomatous tissue is involved in prostatitis, you have a large, smooth, boggy gland. If the infection is in the fibrous or muscular tissues, you have a small, hard, irregular gland. The seminal vesicles are located above the apex of the lateral lobes of the prostate on each side. Normally they are about the size of a pipe-stem, soft, and may be easily emptied on palpation. They consist of three layers of tissue, mucous membrane lining, muscular coat and outer serous coat. The ejaculatory ducts leave the seminal vesicles and run diagonally through the prostate, separating the posterior lobe from the lateral lobes of the prostate, and enter the posterior urethra at the verumontanum, surrounding which are the openings of the prostatic ducts. It is evident that an infection of the posterior urethra spreads by extension to one or both organs. If an infection starts in the mucous membrane of the seminal vesicles, mucous formation is increased with blood and exudate appearing. The process may extend through the muscular layer to the serous coat and involve Denonvillier's fascia, forming a large, indurated, irregular mass protruding into the rectum.

Etiology: Two factors are responsible for this diseased condition; 1. mal sex hygiene, and 2. infection.

Mal sex practice may result in a lesion of the prostate and seminal vesicles as severe as that caused by infection. Coitus interruptus causes an abnormal physiological process which becomes pathological. The sex act is broken, resulting in the improper emptying of the seminal vesicles and congestion of the posterior urethra. After repeated attacks, pathology takes place with the associated symptoms. Masturbation is another cause, as, force, external pressure and uncleanness will cause congestion and lesions, which in turn tend to keep up the practice. In such cases, prognosis for sexuality is bad. Repeated sexual excitement without ejaculation, and excessive intercourse, especially while under the influence of intoxicants, are other common causes. Absence of pain and tenderness in a gland in this group means that the function can not be restored. The pathology from such abuses may be from the simple catarrhal to the more serious sclerotic types.

The infectious group comprises a larger percentage of the cases seen. The following organisms are responsible: gonococcus, staphylococcus, colon bacillus, occasionally the streptococcus, tubercle bacillus, and rarely the treponema pallida. These organisms reach the prostate and seminal vesicles usually by way of urethral extension. They produce here their usual pathological picture, inflammation, edema, necrosis and scarring.

Symptoms: The symptoms of the acute and subacute stages are dysuria, marked frequency of urination, tenesmus and severe pain in the back. The ordinary case is the chronic form of prostatitis and seminal vesiculitis due to gonorrhea, non-specific infection and mal sex hygiene. The clinical symptoms may apply to any system of the body and for convenience are grouped as follows:

i. Nervous group

1. Headaches, pains and aches all through the boy.
2. Lack of concentration. Patient becomes inefficient and loses his position.
3. Loss of ambition.
4. Inferiority complex. Patient can not look you in the face.

ii. Gastro-intestinal group

1. Loss of appetite.
2. Constipation.
3. Coated tongue, gas and indigestion.

iii. Arthritic group

Patient may have any symptoms of arthritis. Small or large joints may be involved, more frequently the joints of the spine. These arthritic pains are due to toxic absorption from the prostatic lesion.

iv. Referred pain group

These patients complain of pain referred along the vas, across the bladder, down to the testicle, or to the perineum. There is a feeling of weight in the sacral region.

v. Urethral discharge group

These patients seek aid on account of a chronic mucous or muco-purulent discharge from the urethra, usually seen early in the morning on arising, following defecation, or after exertion as a "strain". The meatus is often stuck together.

vi. Bladder symptoms group

Patient has slight discomfort on urination with a tendency to increased frequency and urgency. These symptoms are not marked ordinarily.

vii. Sex group

There are premature ejaculation, loss of the power of erection, inability to retain an erection, or failure to reach an orgasm. Some under this group may have normal sexual powers.

Pathology: There are the catarrhal type, the beginning sclerotic type and the sclerous, tumefied type, the last the most serious.

1. Chronic catarrhal prostatitis: The prostate is large, globular and soft, with one or both lobes involved. The contour of the gland is convex without increased resistance to the finger. The gland is firm and cannot be moved by the finger. The same is true of the seminal vesicles. The first glass of urine will show a slight amount of mucus. After massaging the prostate and stripping the vesicles the urine is cloudy; microscopic examination reveals pus or moco-pus clumps. In some cases you find sago bodies.

2. Beginning sclerotic prostatitis: Here you may have all the signs of the "I"—plus increased resistance to the examining finger. Induration has taken place and the gland becomes more fixed. You may find the seminal vesicle like a thick cord. You may have a combination of these two types in the same patient, one lobe being enlarged but soft and the other slightly irregular and indurated. If the process becomes more severe, connective tissue forms and you pass into the next type which is more serious.

3. Sclerous tumefied prostatitis and seminal vesiculitis: In this type Denonvillier's fascia is involved. Rectal examination reveals a very large, irregular, indurated mass. The prostate and seminal vesicles can not be distinguished. This mass consists of connective tissue, fascia, prostate and seminal vesicles. The prostate is compressed to a small size in this mass by the increased amount of connective tissue and fascia. Fascia spreads between the seminal vesicles. The process may become so severe that on cystoscopic examination you may see bullous edema of one or both ureteral orifices, simulating vesical tuberculosis. If pain is present on examination, activity is still present. If there is an absence

of pain on examination, prognosis is bad. There is no, or occasionally very slight, urethral discharge. All specimens of urine before and after massage are clear and negative for pus. Following repeated massages after several weeks treatment the connective tissue will become broken down, the prostatic ducts opened up and all specimens may then be cloudy and loaded with pus and debris. Urethroscopic examination will reveal the posterior urethra white and scarred due to the presence of connective tissue, which is the end result of resistance to inflammation.

Treatment: Our main hope of ridding the prostate and seminal vesicles of chronic infection lies in repeated prostatic massages. We speak of massaging the prostate and stripping the seminal vesicles. The method is the same in both cases. These massages should be given from four to seven days apart. Some patients can stand it only once a week. Never massage every other day, as you are apt to traumatize the tissues and activate some latent organisms and stir up the entire process causing an acute condition.

The objects of massaging the prostate are: 1. To empty the prostatic ducts and seminal vesicles, 2. To get rid of the pus and debris which plug the ducts and cause an accumulation of exudate and secretion in pockets beyond the obstruction, 3. To improve drainage, 4. To stimulate the gland in order that the blood supply may be increased and healing take place, 5. To break up connective tissue and adhesions.

In the catarrhal types of prostatitis pus, mucus and shreds are found in the urine before and after massage. During the first six or seven weeks the mucus and shreds increase, after which there is a sudden decline in the amount and the urine returns to normal after massage. In the sclerotic type urines before and after massage are clear for as long as nine or 10 weeks. As treatment is continued pus, mucus and shreds will appear and increase for several weeks, finally subsiding to a normal-appearing urine before and after massage. The indurated rectal mass will disappear and the prostate will assume its normal size and shape and become soft. In this type of case have patience and massage long after all symptoms have cleared up and conditions have returned to normal. It may take 12 to 18 months to effect permanent relief, but these patients are most grateful if you succeed

in gaining their confidence and have whole-hearted coöperation. Tuberculous prostatitis should never be massaged. In addition to prostatic massages, an occasional posterior instillation of silver nitrate in weak solutions is advisable. This also must be avoided in case of tuberculosis and the sclerotic posterior urethra. Where there is a chronic urethral discharge, for psychological reasons more than for medicinal values, give the patient a mild urethral injection to use at home once or twice a day.

—811 Masonic Temple.

SURGERY

GEO. H. BUNCH, M.D., *Editor*,

GAS GANGRENE IN CIVIL PRACTICE

Dr. W. W. Keen, the well known sage of American surgeons, states that he never saw a case of gas infection in the Civil War and but one case in civil life since then. (*Treatment of war wounds*, 1917.) In the world war cases of this dread malady were common and in civil practice of today the condition is certainly not rare; many die of it without the nature of the infection being recognized.

There is a considerable group of anerobic organisms that may cause gas gangrene but the bacillus of Welch (bacillus aerogenes capsulatus, bacillus perfringens) is the chief offender. Aerobic organisms are also often present and by using the oxygen in the tissues seemingly promote the growth of the anerobes.

The infection is essentially one of traumatized muscle tissue and when the organisms once gain entrance into such muscle, if the wound is closed, conditions are ideal for the development of gas gangrene. The course of the infection varies with the nature of the injury, the virulence of the organism, and somewhat with the resistance of the patient. A muscle is destroyed from origin to insertion before the sheath is penetrated and a new muscle becomes involved, so that in the early stages, the disease is apt to be confined to a single muscle or to a group of muscles. Early manifestations of infection are swelling of the extremity about the wound, pain and tenderness. Careful examination will soon show beginning crepitation from gas as it accumulates in the tissues. Spreading along lines of least resistance, it, by compression, lessens the blood supply and enables the infection to spread with incredible rapidity. As

absorption increases, there is toxemia, fever and leucocytosis. The condition is progressive and, untreated, is rapidly fatal. Ashhurst says the entire course of the disease may extend over only six or eight hours. He describes the necrotic muscles as being a purplish, pultaceous, stinking mass, spongy to the touch, with an exudate of foam when compressed. There is no pus. The skin becomes dark and mottled. In the average case death comes in three or four days.

The treatment should be preventive. Authorities advise giving polyvalent serum at the time of injury. It is of interest to note that a serum is now available which is both antitetanic and antiperfringens. Physicians and surgeons must have more respect for the potentialities of crushed and traumatized muscle tissue in the presence of infection. Wounds should be widely opened and thorough debridement done. Wounds potentially infected should not be closed. A disfiguring scar is better than a funeral. Gun-shot wounds offer ideal conditions for the development of gas infection. If there are clean wounds of adit and exit, without bone injury or suspicion of gun wadding or clothing being driven into the tissues, such wounds usually do well left alone after skin sterilization. However, undue pain, swelling and fever are danger signals demanding immediate opening of the wound. If infection is found, wide incisions should be made. All traumatized or infected muscle should be removed, irrigations of Dakin solution prescribed and the wound left open. This will cure most cases of beginning gas infection. If the condition progresses, guillotine amputation of the extremity should not be delayed. When the infection has reached the trunk the condition is hopeless. When gas infection begins, treatment must be both prompt and radical to be effective.

DEATHS ON THE OPERATING TABLE

(Breitner, B., *Wiener Medizinische Wochenschrift*, via *Anesthesia and Analgesia*, May-June)

Breitner presents a very exhaustive analysis of the causes of death on the operating table. His work is based on a study of 155 deaths occurring in 152,360 cases in Vienna. One-half of these followed ether anesthesia and one-third chloroform. However, when the deaths were calculated on a percentage basis, the true position was noted; ether anesthesia had been followed by a mortality of 0.4 per cent. as compared with 0.1 per cent. for chloroform.

PUBLIC HEALTH

G. M. COOPER, M.D., *Editor*
Raleigh

[This material has appeared in print here and there in the State; but it is Dr. Cooper's, and its value prompts that what he says be repeated here for encouragement and warning. It is not an offering but a collection. With this issue Dr. Cooper joins on as a Department Editor.—*Editor of the Journal.*]

INFANT AND MATERNAL AND PELLAGRA MORTALITY LOWERED

The figures on infant mortality in North Carolina for the month of May are most encouraging. There were 445 deaths of infants under one year reported to the Bureau. For the same month last year 591 deaths were so recorded. There may be some additions running the total a little higher. At the same time the reduction is a material one.

For the month of May this year there were 54 deaths recorded under the heading of "maternal mortality." Last year 61 similar deaths were recorded for the same period, showing in this instance a reduction also.

Weather conditions may have had something to do with it, as May 1930 was a very hot month and May of this year was cool enough to cause a delay in the advent of the house fly season and to insure a safer milk supply. In any event, in order that infant and maternal mortality in North Carolina in 1931 may reach the lowest level, every agency, public and private, throughout the State must make a united effort to protect the babies from untimely deaths.

The most encouraging report the State Board of Health has been able to make in a long time is embodied in the figures concerning pellagra deaths reported in the month of May. This year only 48 deaths were reported, which is the smallest number reported since 1925. From 1925 to 1931, there was an uninterrupted increase. In May, 1930, 115 deaths were reported. It will thus be seen that the deaths this year were only about two-fifths those occurring in 1930. The fine work done last year all throughout the State has evidently been productive of the results hoped for. With worse economic conditions and greater unemployment, in the ordinary course of events there would have been a great increase in 1931 over 1930. It is evident that the work done last year is now producing the desired effect and there is good reason for hope that each month throughout the summer will show a continuing decrease.

PEDIATRICS

E. K. McLEAN, M.D., *Editor*
Charlotte

A VALUABLE ANODYNE, ANTISPASMODIC AND SEDATIVE

Phenobarbital is one of the most valuable drugs used in pediatrics. There are several conditions in which it is exceedingly useful and takes a place that can not be filled by any other drug.

In simple cases of vomiting due to hypermotility of the stomach; in cases of so-called colic when the baby is gaining well but frets and cries continually, this is the most useful drug. This type of infant is usually very restless, does not rest well day or night, may cry for two or three hours at a time and keeps the household in a constant state of tension.

Frequently such babies are weaned in an effort to quiet them and make them more comfortable. Changing foods does not offer relief. They continue to be nervous and to fret.

Phenobarbital in doses ranging from $\frac{1}{8}$ to $\frac{1}{4}$ grain given every 3 or 4 hours works wonders, quieting them and changing the entire aspect of the case.

No untoward effect has been noted from the continued use of the drug other than a slight drowsiness which clears up on reducing the dose. The drug has been used continuously for as long as 6 months without any evidence of toxic symptoms and has been given during the first week in $\frac{1}{8}$ grain doses every three hours.

We used the drug recently in an infant 3 months old with a draining osteomyelitis of the right femur. The baby was extremely restless even though the leg was at rest in a cast. It vomited its food and had marked abdominal distention.

Several formulas were tried but with no change in the symptoms. It was put on $\frac{1}{4}$ -grain of phenobarbital every 3 hours, 15 minutes before feeding, and the crying, vomiting, irritability and distention were relieved.

The drug probably has its greatest use in pylorospasm. It controls the visible peristalsis and quiets the vomiting. It has the advantage over atropine in that the initial dose does not have to be small and gradually increased, and there is no rash or rise in temperature as so frequently occurs when atropine is given.

THERAPEUTICS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

THE NEW AMERICAN MEDICAL DIRECTORY*

This has nothing to do with therapeutics. Therapeutics will have to wait for a more propitious moment, like the friend of the inveterate punster who woke the punster out of a sound sleep (on a bet) and demanded an instant pun on "mince pie." The punster yawned, turned his face to the wall, and muttered, "I can't—you'll have to wait till I'm inspired."

The new *American Medical Directory* came today. Dry statistics? Yes, if you look at them in that light. But full of absorbing interest, too, if you go after it. The latest census data as to populations of states, cities, and towns. A page showing the change in numbers of physicians and hospitals in the various states from 1929 to 1931. Other similar data from 1906 on. Remarkable historic data regarding medical colleges, existing and extinct. Some are mere names to most of us, yet they set us wondering. Consider a couple of names of schools formerly in N. C. "N. C. 2.—Edinborough Medical College, Lumbertown. Incorporated 1869. Extinct." "N. C. 6.—College of Physicians and Surgeons, Arlington. Organized in 1871. Extinct. It is not known that it ever graduated a class." What hopes, aspirations, fears, and defeats do these few words represent? Who knows? Perhaps some of the patriarchs in our Medical Israel can tell us something of their history in the columns of *Southern Medicine & Surgery*.

There are equally interesting data in the other two states of our Tri-State group. For example: "S. C. 3.—Charleston Medical School, Charleston (distinct from the Medical College of the State of S. C.) Organized in 1894. Extinct about 1895. It is not known that any sessions were held." Or, consider the following: "Va. 2.—Medical School of the Valley of Virginia, Winchester. Organized in 1826. Extinct 1861." Here was presumably a school with a long and honorable service record. Another: "Va. 3.—Winchester Medical College. Chartered in 1826. Became extinct in 1829. Revived in

1850. Burned 1861. Extinct." "Va. 5.—Randolph-Macon College Medical Department, Prince Edward Court House. Organized in 1840. Extinct 1855."*

Would that someone might arise and tell us of these old institutions in some vein such as Dr. J. Chalmers da Costa has done with regard to the old institutions in Philadelphia, in his collected speeches and papers.

We were distinctly surprised to find only one name listed for North Carolina among "Pathologists Conducting Approved Clinical Laboratories." We know of several clinical pathologists in the state conducting excellent laboratories which we feel might be listed with propriety.

While Duke figures in many things in the new directory, the Duke Library is not mentioned among medical libraries in the state. This, we think, is a mistake.

Even cold statistics can be astonishing at times. The ratio of physicians to population by states is a case in point. South Carolina seems to have fewer doctors to the population than any other state—one doctor to every 1,346 persons. North Carolina comes next, with one physician to every 1,337. Other states having less than one doctor per thousand persons are North Dakota (1:1,322), Mississippi (1:1,283), Alabama (1:1,199), South Dakota (1:1,189), Idaho (1:1,162), New Mexico (1:1,132), Montana (1:1,111), Utah (1:1,039), Louisiana (1:1,012), and Georgia (1:1,007). Virginia has one physician to 933 persons, Pennsylvania one to 799. Especially crowded with doctors are the following states: Nevada (1:695), Illinois (1:670), Maryland (1:658), Missouri (1:645), Massachusetts (1:644), New York (1:599), California (1:562), Colorado (1:546), and District of Columbia (1:266). The last named is no doubt made very high in the number of physicians because of the many stationed there in the various government services. There are more physicians in proportion to the population in Alaska and Hawaii than in S. C., N. C., N. D., or Miss.!

*Edinborough Medical College was operated successfully and highly creditably for a number of years, in upper Robeson county, near the present site of Raeford, by Dr. Hector McLean, later assisted by his son Dr. Murphy McLean. Presumably the

*It may be noted that the name is not the American Medical Association Directory.

school owed its name to Dr. McLean having been graduated in medicine at Edinburgh, Scotland. The difference in spelling could well have come from the doctor preferring that his school's name fall on his ears with the agreeable sound to which they had grown accustomed in Scotland, rather than that they look the same in print.

It is most likely that the stuff about the College of Physicians and Surgeons at Arlington, N. C., is pure myth. The Medical School of the Valley of Virginia had a long and distinguished career. Of Randolph-Macon College Medical Department, Dr. John Peter Mettauer, grandson of a surgeon who came over with LaFayette, was the whole faculty—and no poor faculty at that. He did an enormous number of operations for cataract and stone and used silver wire successfully, and published in the *American Journal of Medical Sciences* an account thereof, prior to the use of metal sutures by Marion Simms. He never removed his silk hat in public, never went to church and was buried with his hat on.

Hampden-Sidney College is in Prince Edward County (P. E. Court House is now Farmville), and doubtless his school would have been the Medical Department of H.-S. but for the fact that the Medical Department of H.-S. had been established in Richmond. It was later to become the Medical College of Virginia. It is a lot to the credit of Mettauer that he wanted a college connection and came over to an adjoining county, my own County of Mecklenburg, in whose countyseat, Boydton, Randolph-Macon then flourished, and got consent to establish his school as the Medical Department of Randolph-Macon.

Corrections and additions, as to these institutions or on any other points of medical history, will be gratefully received and acknowledged.—J. M. N.

NOTE ON MEETING A. M. A.

Just a few words about the A. M. A. meeting in Philadelphia. The scientific and commercial exhibits were extraordinarily fine. The papers in the Section on Practice of Medicine were on the whole a little disappointing. We also took a vacation while in Pennsylvania. Perhaps two of the most interesting things we did were paddling a canoe about 13 miles in a stiff wind on a whitecap covered lake (*real sport!*) and going aboard Admiral Byrd's ship, the City of New York, which is moored at the foot of Market street in the Delaware River. All sorts of relics of the trip to the South Pole were there, even live dogs. A guide explained things in a most interesting way.

HISTORIC MEDICINE

For this issue, ROBERT EMMET SEIBELS, M.D.,
F.A.C.S., Columbia, S. C.

WILLIAMS CHARLES WELLS, PRINTER,
PHILOSOPHER AND PHYSICIAN

In the year 1753, Robert and Mary Wells moved to Charleston, South Carolina, from Scotland and settled there to raise a numerous family. Robert was a merchant but, whether competition was too strong or his mercantile ability was too slight, he turned bookseller, bookbinder and printer. A son, William Charles, was born on May 24th, 1757. Ardently Tory as his parents were, William was destined to become even more fiery in his loyalist convictions: the family required him to "wear a tartan coat and blue Scotch bonnet; hoping, by these means, to make me consider myself a Scotchman. The persecution I hence suffered produced this effect completely."

At the age of eleven, Wells was sent to Dumfries where he completed in two and a half years the courses in the Scotch preparatory school and in the autumn of 1770 began his attendance at the University of Edinburgh and a friendship with David Hume and William Miller, afterward Lord Glenlee, which continued throughout his life.

Somewhat like the post-graduate hospital year of the present time, it was the custom for undergraduates in medicine to become apprenticed to leading physicians and surgeons: in compliance with this custom, he returned to Charleston in 1771 and was apprenticed to Dr. Alexander Garden, who was the leading physician of that city. Too much alike in character to be friendly, Wells and Garden had an unhappy association, for the former's independent spirit and downright manner did not permit him to accept the browbeating which the latter was accustomed to bestow upon his apprentices. Wells relates that on one occasion, by disagreeing with his opinion, he exasperated his master to the point where Garden attempted to strike him. His sister, who adored him with a blind and unswerving love, spoke of his obstinacy even in childhood when she stated that no amount of beating from his father could ever compel him to weep if he did not feel that he was in the wrong.

It is also illuminating to read in his Memoirs that "I have, indeed, never been desirous to conquer any natural feelings, when their indulgence led to no harm; on the contrary, I have always regarded such an indulgence, as highly conducive to the softening of the original hardness of my character." The broad culture and scientific spirit of Dr. Garden undoubtedly had their effect upon Wells' mind and character as evidenced by his future career and by his statement that during the three years of his apprenticeship he learned more than in any three subsequent years of his life.

The apprenticeship terminated abruptly as did the term of the Wellses' stay in Charleston. Uncompromising Tories that they were, the manifestations of the rebel spirit so common in Charleston at this period found no responsive notes in their hearts or attitude. The father was not content to remain loyal to the crown in his heart and, following the publication of loyalist letters and the printing of Tory articles in his paper, was forced to close his establishment and leave the country. The son followed his footsteps, refused to sign documents which would have committed him to the cause of the revolution, and returned to Edinburgh where he passed the preparatory trials for the degree of Doctor of Medicine in the summer of 1778.

The following autumn, he journeyed to London where he took a course of lectures and instruction in practical anatomy with the famous Dr. William Hunter. Being appointed surgeon to a Scottish regiment, he became a surgeon's pupil at St. Bartholomew's Hospital, before taking up his duties, as he felt the need of this instruction. His military career was short, however: the colonel commanding was very obviously what is nowadays called a "stuffed shirt" and Wells' contempt for his ignorance and tyranny developed such serious friction that his resignation became inevitable. The day that he resigned and before his resignation could be accepted, he attacked his former commander in a public place and attempted to provoke a fight and only narrowly escaped a prison sentence for insubordination.

In 1780, he attended classes at the University of Leyden and wrote his Thesis, "De Frigore," about which Wells remarks that it was a "paltry affair, and having no other rec-

ommendation than that its Latin was altogether my own." Returning to Edinburgh in 1780, he received his degree from that University on July 24th. Following the British occupation of Charleston in 1781, Wells felt that the time was propitious for him to return to the city to look after his father's affairs and became in turn a "printer, bookseller and merchant." As he held a commission of officer of volunteers under the crown, he was appointed a Judge Advocate at the trial of certain militia officers accused of insubordination and took great pride in the fact that, although he had but little knowledge of the law, he secured convictions.

In the summer of 1782, he decided to give up his Charleston residence and departed for St. Augustine, Florida, taking his printing press with him. Arriving in St. Augustine, he hired a pressman but found that this assistant was unable to put together the press which had been taken apart for shipment. Nothing daunted, Wells studied the "Printer's Grammar," and successfully put his press in working order with the help of a negro carpenter. He began the publication of a weekly newspaper, "The East Florida Gazette," *which he claimed to have been the first attempted in that country. Some of his friends in Florida suggested that he should practice medicine there but this suggestion met with the response that he had taken an oath never to practice except in Great Britain. He was elected a captain of volunteers and became manager of a company of young officers who were putting on plays for the benefit of impoverished Tory refugees from the Carolinas and Georgia. He appeared in the character of Lusignan in "Zara," feeling competent to do so as he had once seen Garrick play it and later took a part in the "Orphan" but remarked that when he appeared in comedy, he failed flatly.

Following the treaty of peace, Wells returned to Charleston under a flag of truce from General Tonym but the memory of his Tory activities had not died out and the spite of his enemies was shown in his arrest under a civil suit against his brother and his detention in prison for three months: he refused to give bail on the ground that he would be deserting the security of the flag. There was no compromise in his firm Scotch resolution for he stated: "I am, I ever was, I ever shall be, a

subject of Great Britain." In consequence of this fixed resolution, he returned to England in 1784 to practice medicine and during the course of his studies which he felt were necessary before taking up active practice, "I became acquainted with the present Dr. Baillie, and soon after contracted with him an intimate friendship, which now constituted the fifth, and has been the last I have ever formed."

In 1785, Wells opened his London office. Even greater discouragement than that usual to the young physician seems to have been his lot as it was not until ten years later that his receipts became equal to his expenditures, although he lived in what he described as "a rigid and almost sordid manner." In 1788 he was admitted a Licentiate of the Royal College of Physicians in London, and was one of those Licentiates who in 1793 addressed a letter to the President and Fellows, claiming admission into the College, and founding their claim upon the charter by which the College was incorporated. Soon after the decision upon a claim in the Court of the King's Bench, in the case of Dr. Stanger, he applied to the College in 1797 for admission to an examination in order that, if his fitness should be ascertained, he might be admitted a Fellow. This application was in strict conformity to a by-law, by which from the stress which was laid upon it by Lord Kenyon and the other judges and by Mr. Erskine, the leading Counsel for the College in Dr. Stanger's case, it was believed that the College would be governed. He was not admitted to an examination. This gave occasion to his very able "Letter" to Lord Kenyon. When in 1813, the Royal College of Physicians offered him a Fellowship, he refused the honor. He was appointed physician to the Finsbury Dispensary and in November, 1795, he was elected assistant physician to St. Thomas' Hospital and in 1800 full physician, which office he held until his death.

Wells was a prolific writer on philosophical, scientific and political subjects. Under the signature of "Marcus," there appeared in the Public Advertiser in the fall of 1780 a bitter arraignment of Henry Laurens, and in 1780-81 he published many articles of a political nature and one to which he attributed some degree of importance. In this latter publica-

tion, he urged that the death penalty should be inflicted upon those American officers who had been captured and paroled by the British and who had broken their parole. He believed that the frequent publication of this letter by General Balfour prepared for the approval by the General and by Lord Moira of the sentence of execution which had been passed upon Colonel Hayne under this charge.

In 1792 appeared his Essay upon "Single Vision" and because of its merit he was elected a Fellow of the Royal Society in November, 1793. He had suffered from an attack of apoplexy in 1800 and following this went on a rigid vegetable diet but, in spite of increasing symptoms of cardio-vascular-renal disease, he began in the autumn of 1812 his study upon dew and in 1814 published his famous Essay. He demonstrated clearly after a series of well-arranged observations which were made in Surrey in the garden of his friend, James Dunsmure, that "dew is the result of the preceding cold in the substance on which it appears." For this, the first exact explanation of the phenomenon, he was awarded the Rumford Medal of the Royal Society.

When Wells published in 1818 his two essays upon "Dew" and "Single Vision," he had following his Letter to Lord Kenyon, an account of the "Female of the White Race of Mankind" which attracted but little notice. This paper was read before the Royal Society in 1813 but the delay in its publication and its inclusion with the other essays suggests that Wells attributed no great importance to it, yet, in view of subsequent events, it was probably his most important contribution to scientific thought. In Darwin's "Origin of the Species," there is inserted by this author "An Historical Sketch of the Progress of Opinion on the Origin of Species, Previous to the Publication of the First Edition of this Work." Brief quotations from this Sketch defined Darwin's estimate of Wells' contributions: "In 1813, Dr. W. C. Wells read before the Royal Society 'An Account of a White Female, part of whose skin resembles that of a Negro'; but his paper was not published until his famous 'Two Essays upon Dew and Single Vision' appeared in 1818. In this paper he distinctly recognizes the principle of natural selection, and this is the first recognition which has been indicated; but he

applies it only to the races of man, and to certain characters alone. After remarking that negroes and mulattoes enjoy an immunity from certain tropical diseases, he observes, firstly, that all animals tend to vary in some degree, and, secondly, that agriculturists improve their domesticated animals by selection; and then, he adds, but what is done in this latter case 'by art seems to be done with equal efficacy, though more slowly, by nature, in the formation of varieties of mankind, fitted for the country which they inhabit. Of the accidental varieties of man, which would occur among the first few and scattered inhabitants of the middle regions of Africa, some one would be better fitted than the others to bear the diseases of the country. This race would consequently multiply, while the others would decrease not only from their inability to sustain the attacks of disease, but from their incapacity of contending with their more vigorous neighbors. The colour of this vigorous race I take for granted, from what has been already said, would be dark. But the same disposition to form varieties still existing, a darker and a darker race would in the course of time occur: and as the darkest would be the best fitted for the climate, this would at length become the most prevalent, if not the only race, in the particular country in which it had originated.' He then extends these same views to the white inhabitants of colder climate." The title page of his Essays is as follows:

Two Essays:/ one/ Upon Single Vision With Two Eyes;/ the other/ on Dew./ A Letter/ to the/ Right Hon. Lloyd, Lord Kenyon/ and/ An Account/ of/ A Female of the White Race of Mankind,/ Part of whose Skin Resembles that of a Negro;/ with/ Some Observations on the Causes of the Differences in/ Colour and Form between the White and Negro/ Races of Men./ By The Late William Charles Wells,/ M. D. F. R. S. L. & E./ with/ A Memoir of His Life/, Written by Himself./ London:/ Printed For Archibald Constable and Co. Edinburgh,/ Longman, Hurst, Rees, Orme, and Brown,/ and Hurst, Robinson, and Co. London/ 1818./

During his last illness, he dictated a biography to his friend, Samuel Patrick, which was published in 1818. In this biography, although he admits having made only five in-

timate friends, to them he grants the fullest measure of praise for their loyalty, kindness and devotion and rejoices that they "most generously promise to burthen themselves with the cares of my concerns after my death." He was buried at St. Brides', Fleet Street, and a tablet was erected by his sister, Louisa Susannah Wells. Another friend, Dr. William Lister, wrote the following epitaph for this tablet:

"William Charles Wells, M. D., F. R. S., L. and E.,

Who was born May 24, 1757,
And who died Sept. 18, 1817;
A skilful and learned physician,
An inventive philosopher,
A man of singular worth and honour;
He extended the boundaries of natural science
And exhibited in his conduct
An union of generosity with frugality,
Of high-mindedness with prudence,
And a strict and scrupulous integrity,
Above the reach of suspicion as well as of reproach."

The following is the complete bibliography of Wells' writings in addition to the Essays and occasional papers mentioned above:

Two letters, in reply to Dr. Darwin's remarks, in his "Zoönomia," upon what Dr. Wells had written in his "Essay upon single Vision with two Eyes," on the apparent rotation of bodies, which takes place during the giddiness occasioned by turning ourselves quickly and frequently round. Published in the "Gentleman's Magazine" for September and October, 1794.

Observations on the influence which incites the muscles to contract in Mr. Galvani's experiments. "Philosophical Transactions," 1795.

Observations and experiments on the colour of blood. "Philosophical Transactions," 1797.

Some account of the life of Mr. Anthony Lambert, formerly of Calcutta; and some account of Mr. George Wilson, apothecary, of Bedford-street, Covent Garden. Both these appeared in London in the "Gentleman's Magazine" for 1800.

A biographical sketch of Dr. George Fordyce. "Gentleman's Magazine," 1802.

A short account of Mr. John Savage, formerly of Charleston. "Gentleman's Maga-

zine," 1804.

A biographical memoir of Dr. David Pitcairn. "Gentleman's Magazine," 1809.

Observations and experiments on Vision. These were published in the "Philosophical Transactions," 1811.

A biographical sketch of Dr. Andrew Marshall. "Gentleman's Magazine," 1813.

An answer to remarks in the Quarterly Review, upon the Essay on Dew. An answer to Mr. Prevost's queries respecting the explanation of Mr. B. Prevost's experiments on Dew. These appeared in Dr. Thomson's *Annals of Philosophy* for 1815.

A short letter on "The Condensation of Water upon Glass." This was published in Dr. Thomson's *Annals of Philosophy* for 1816.

The titles of his medical writings are:

1. Observations on Erysipelas.
2. An Instance of an entire want of Hair in the Human Body.
3. Observations on the Dropsy which succeeds Scarlet Fever.
4. A Case of Aneurism of the Aorta, attended with ulceration of the Oesophagus and Windpipe.
5. A Case of Epilepsy and Hemiplegia, apparently produced by a sharp projection from the inner Table of the Skull.
6. A Case of Tetanus, with Observations on the Disease.
7. A Case of Aneurism of the Aorta, communicating with the Pulmonary Artery.
8. A Case of considerable enlargement of the Caecum and Colon.
9. A Case of an extensive Gangrene of the Cellular Membrane, between the Muscles and Skin of the Neck and Chest.
10. On Rheumatism of the Heart.
11. On the presence of the Red Matter and Serum of the Blood in the Urine of Dropsy, which has not originated in Scarlet Fever.
12. Observations on Pulmonary Consumption and Intermittent Fever, chiefly as Diseases opposed to each other; with an attempt to arrange several other diseases, according to the alliance or opposition which exists between them and one or other of the two former.

These were all published in the second and third volumes of the *Transactions of the Society for the promotion of Medical and Chirurgical Knowledge*.

There is also a case of Aphonia Spasmodica

described by him, and communicated by Dr. Carmichael Smith, in the second volume of the "Medical Communications."

The material for this study was derived through the courtesy of Mr. A. S. Salley, Jr., Secretary of the South Carolina Historical Commission, and Professor Yates Snowden, Head of the Department of History at the University of South Carolina, in their permission to use material from their libraries. A full history of the Wells family may be found in the volume in the possession of Professor Snowden with this title page:

The Journal of a Voyage/ from/ Charleston, S. C., to London/ Undertaken During the/ American Revolution/ by a Daughter of An Eminent/ American Loyalist/ (Louisa Susannah Wells) in the year 1778/ and written from Memory Only/ in 1779 New York/ Printed for The New York Historical Society/ 1906./

"The Journal is reproduced from a verbatim copy from the original by Mr. W. G. Aikman, of Glasgow, Scotland, great grandson of the authoress."

*Established in St. Augustine in 1783 by John Wells and William Charles Wells.

"No issue of this paper has been located, but it surely existed and was probably published by John Wells, with the assistance of his brother, William Charles Wells. In the 'Gazette of the State of Georgia' of May 8th, 1783, there is a reference to the St. Augustine paper of April 19th, also to the 'East Florida Gazette Extraordinary,' April 21st. A communication to Miller's 'South Carolina Gazette' of August 13th, 1783, denounces Dr. William Charles Wells for returning to Charleston bringing in the vessel with him a gazette printed at Augustine under his auspices wherein the good people of the States are insulted." The same paper of October 4th, 1783, mentions that a sloop had lately left Charleston for Augustine carrying Dr. Wells as a passenger. The same paper of April 1st, 1784, says the "printer has received the East-Florida Gazette of the 22nd of March."—(Extract from the *Proceedings of the American Antiquarian Society, New Series*, xxxii April 9, 1913—October 15, 1913, p. 369.)

—The Medical Building.

Customer—"Are those eggs strictly fresh?"

Grocer—"George, just feel if those eggs are cool enough to sell yet."

First Classman (inspecting Plebe): What are you doing with your socks on wrong side out?

Plebe: My feet got hot and I turned the hose on them.—*Annapolis Log*.

INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*

PRESENT STATUS OF HELIOTHERAPY IN TUBERCULOSIS

One hears so much of heliotherapy nowadays and in such diverse conditions, and both among the profession and the laity the use of sunlight in tuberculosis has taken on such a prominent roll, that it is well to consider its real value in this disease.

Dr. Charles K. Petter of the Glen Lake Sanatorium, Oak Terrace, Minnesota, presents a short but very comprehensive article dealing with this subject in the May number of the *Annals of Internal Medicine*. While sunlight in connection with tuberculosis has been thought of and occasionally written of for many years, Rollier of Leysin is the man who has done the most to bring it to its present modern condition of usage. Dr. Petter makes some observations with regard to the physics of light which I quote:

"One cannot discuss heliotherapy without at least a brief consideration of the physics involved. Light has been defined as 'an electromagnetic disturbance of the ether.' (Lodge.) The electromagnetic vibrations which pervade our universe when arranged according to wave lengths present a definite spectrum. At one extreme the waves are measured in ten-millionths of a millimeter while at the other end of the spectrum hundreds of meters express the wave lengths.

In addition to wave length, these ethereal agitations possess a velocity of 186,300 miles per second and a frequency varying inversely as the wave length. This entire electromagnetic spectrum if projected as one view, with the visible part one foot in length, would be seven million miles long. At one end are the recently observed cosmic rays and at the other the Hertzian or radio waves, with gamma and x-rays, ultraviolet, visible light, and penetrating heat or infrared rays in between. (The Angstrom unit, one-ten-millionth part of a millimeter, has been accepted as the unit of measurement.)

We are particularly interested in a combination of the near-violet and the visible spectrum in treating tuberculosis.

Although many people believe the beneficial effects of heliotherapy due to the ultraviolet component, I believe that conclusive evidence has been presented by many observers to show that wave lengths of 3900 to 8000 A° (visible) are a necessary adjunct to the biotic or vital rays (2800 to 3800A°); in other words, a spectral range from 2800 to 8000 A° whether from the sun direct or from an artificial source (carbon arc) is the agent of choice.

Radiant energy in the range mentioned (2800-8000 A°) produces very definite physiologic effects, some due to the ultraviolet alone; others to the visible alone and still others to the entire range. These effects are briefly:

1. Erythema and slight tanning accompanied by improvement in the health, texture and function of the skin.

2. In the blood there is an increase in hemoglobin, a rise in red count and platelet count. The lymphocytes show an initial drop following irradiation with subsequent rise while the polynuclear elements are increased.

3. The calcium: phosphorus balance is brought to normal.

4. Blood-pressure tends to become lower, while pulse rate shows an initial rise with subsequent drop to normal or below.

5. Body temperature experiences an initial rise but returns to within one degree of normal shortly after irradiation has ceased.

6. Basal metabolic rate is not increased but elimination is aided. Blood urea nitrogen is reduced and nutrition improved.

7. Muscles experience an improvement in tone, contour and nutrition. Rollier has referred to sun bathing as the best masseur one can employ.

8. Healing is stimulated and tuberculous processes affected quite specifically.

9. There is probably a definite chemical effect on the blood, the rays penetrating to the capillaries where their energy is absorbed by the blood stream and effects produced on distant tissues and organs.

10. Sunbaths produce the liberation of varying amounts of tuberculin and thus act the same as work on the tuberculous process. Graduated doses of light liberate controllable amounts of tuberculin while physical activities may produce more than is desired.

The present-day popularity of both natural and artificial irradiation as a beneficial measure has led to much injudicious use of this therapeutic agent. Edgar Mayer has stated in this connection: 'Light in any form by itself is not curative, but comprises only one of the important adjuncts in the treatment of tuberculosis. To believe that sunlight or artificial sources of light will cure all forms of surgical tuberculosis, to be unduly optimistic about this treatment and to consider it a specific form of treatment, to use it without sound medical guidance and adequate equipment, and finally to employ it to the exclusion of rest and hygienic regimen, eliminating orthopedic measures or the occasional necessary surgical intervention in bone and joint tuberculosis is bound eventually to dishearten many sufferers and to bring discredit on an otherwise desirable method of treatment.'"

From what precedes it is obvious that one must be rather conservative in the application of heliotherapy in tuberculosis. Dr. Samuel

H. Watson has worked out a simple but very significant chart of tuberculous lesions from the standpoint of the heliotherapist, which I reproduce from Dr. Petter's article:

ful by setting up reaction. The third factor to be observed is the reaction of temperature and pulse rate following irradiation. Immediately after an exposure to the sun, an elevation of body tempera-

Classification of Tuberculosis

EXTRAPULMONARY

(Infections of external lymph glands, (Without pulmonary lesions.....Class 1
bones, joints, peritoneum, etc.)..... (With pulmonary lesionsClass 2

PULMONARY

(Infections of lungs and tracheo-
bronchial glands)

(Childhood type-tracheo-
(Productive (bronchial glandsClass 3
(or (
(Proliferative (
((Adult type (lungs).....Class 4
((
(ExudativeClass 5

INDICATIONS:

Class 1.—To use treatment in all cases.

Class 2.—To use treatment in all cases, but use care to avoid reactions.

Class 3.—To use treatment in all cases.

Class 4.—To use treatment only in cases which, in spite of best dietetic or hygienic treatment, remain stationary or lose ground.

Class 5.—Never use treatment.

It is apparent from this chart that children with tracheobronchial gland lesions and extrapulmonary cases of tuberculosis are the ones in which one can employ heliotherapy with the greatest freedom and with the least risk. As soon as pulmonary lesions appear, even though they may be productive in nature, care is necessary; and should these lesions be exudate in character, heliotherapy is absolutely contraindicated.

"In pulmonary cases we may expect (1) improvement in general condition, (2) decrease in lung moisture, 'rales', (3) decrease in sputum, it very often becoming negative, and (4) increased fibrosis."

Dr. Petter is of the opinion that tuberculous pleurisy with effusion often clears up with the aid of sunbaths, and believes that every case of tuberculous pleural effusion, unless accompanied by exudative pulmonary lesions, should have heliotherapy. Peritoneal tuberculosis reacts very well to heliotherapy.

"When one attempts to administer radiant energy as a therapeutic agent there are certain important factors which must not be overlooked. First of all, each patient is a new problem in therapeutics from the heliotherapist's standpoint. No two people react exactly the same to equal doses of light nor do two cases of tuberculosis present the same clinical features. Therefore, although an arbitrary plan of dosage may be adopted, the heliotherapist must individualize, and not attempt to carry through the same routine for every case. Secondly, too much irradiation, instead of being beneficial will be harm-

ful by setting up reaction. The third factor to be observed is the reaction of temperature and pulse rate following irradiation. Immediately after an exposure to the sun, an elevation of body temperature is noted, which may reach one degree or more above normal. This must drop back to within one degree of normal within a half hour or the reaction is considered unfavorable and subsequent dosage must be reduced or insolation stopped entirely. We have treated patients who could not take larger exposures than one minute at the start without reaction but who were able to gradually increase this and progressed satisfactorily. The pulse rate is likewise elevated after insolation. We require that within one-half hour after exposure this rate must return to within 20 beats of its preinsolation rate. The body temperature and pulse reaction plus general condition of the patient, then, serve as our important 'checks' on the progress of the treatment.

Rollier drew up an arbitrary norm which serves as the foundation for all heliotherapy prescriptions. His plan is to divide the body into five zones and expose each zone for a period of five minutes anteriorly and posteriorly until the patient is receiving a total of two- to four-hours insolation each day. The total varies with atmospheric conditions, the individual patient and the individual therapist. We feel that the exposures should be so regulated that tan production does not become intense. A ruddy erythema just bordering on a mahogany color is preferable to a tan which becomes almost chocolate brown, for this latter filters out a large part of the ultra-violet which we wish to have absorbed by the blood stream."

Dr. Petter discusses briefly the question of the mercury arc versus the carbon arc and says:

"The question of the mercury arc versus the car-

bon arc is one which we believe can be definitely settled. It has been our experience that at the end of the sun season, patients are in much better condition than they are in the following spring after several months of quartz mercury arc irradiation. On the other hand, a few patients who have had carbon-arc irradiation have continued to progress during the winter months just as they did under solar irradiation. Since the mercury-arc spectrum is rich in the short ultraviolet 2500 to 2700 A° and feeble in the range from 2800 to 3000 A°, and because the carbon arc using Sunshine Carbons gives a spectrum similar to that of the sun, 2800 to 8000 A°, we feel that the carbon arc is the artificial source to be preferred."

EDITORIAL COMMENT

The viewpoint of those dealing largely with tuberculosis differs somewhat according to the location where the particular authority is practicing. Thus, we find that in the West and Southwest, where the percentage of sunshine is far greater than in the East, there is more enthusiasm for the use of insolation.

A colleague from Arizona tells me that he insulates well over 50 per cent. of his pulmonary cases. In general, I feel that the profession should be warned against sunbaths in pulmonary cases unless these sunbaths are very strictly supervised and the dosage carefully graduated. I have in many instances seen untold harm in patients who have been advised simply to "take sunbaths." Many have gone down to the lower part of the Florida peninsula, gotten into bathing suits and tried to see how many hours they could lie out on the beach. The result has not infrequently been a marked reactivation of the tuberculous process and an increase in all symptoms. Furthermore, it seems to me that in the East, where the sun is more or less a doubtful quantity, the use of the quartz light is preferable. Certainly the sun's rays are better than any man-made rays but, on the other hand, with the artificial light, whether mercury- or carbon-arc, one can have constancy of dosage and regularity of administration. This in a large measure makes up for the lessened efficiency of the artificial light. In the editor's experience, heliotherapy, whether from the sun or from the lamp, has been very valuable in tuberculous enteritis.

Dr. Petter stresses one very important point which was not mentioned in the abstract of his paper; namely, that heliotherapy is merely an adjunct and a help to other modes of

treatment, and in no wise should take the place of the regular cure in pulmonary cases nor that of justifiable surgery, whether operative or orthopedic as the nature of the case may demand. It so often happens that when a relatively new procedure is tried, the main reliance is placed upon it and other things are allowed to sag. This occurs very frequently in cases being treated by artificial pneumothorax, when the fundamental principles of the cure for tuberculosis are often relegated to the background. We have in heliotherapy a valuable adjunct to the treatment of tuberculosis, but it must be used with care and caution, and, save when facilities are at hand for its proper administration under the guidance of one experienced in its usage and conservative in dosage, it is best left untried.

EYE, EAR AND THROAT

V. K. HART, M.D., C. N. PEELER, M.D., and
F. E. MOTLEY, M.D., Editors

OBSERVATIONS IN TWO HUNDRED AND THIRTY FOREIGN BODIES OF THE FOOD AND AIR PASSAGES

In reviewing well over 200 foreign bodies of the respiratory tract or esophagus seen in this clinic, only practical observations will be recorded.

The general practitioner is as a rule today keenly alert to the symptomatology. Of most importance is the history. Any choking spell following the taking of some object into the mouth should be viewed as significant. If this is followed by persistent cough, fever and changes in the breath sounds, the lung probably harbors a foreign body. Refusal to take food, painful or difficult swallowing, and salivation should suggest a foreign body of the esophagus. However, since most foreign bodies of the esophagus lodge just below the cricopharyngeus, a large foreign body so placed may give compression anteriorly on the trachea and respiratory symptoms. We had a case recently in which a large piece of tin whistle was removed from the upper esophagus. Yet, prior to admission, a general surgeon had done a tracheotomy thinking it was in the trachea.

That early removal is the *sine qua non* if serious complications are to be avoided is shown by the fact that, with very few exceptions, all of our patients have been promptly

referred by the outside physician. Despite this early recognition of foreign body, a case is still occasionally seen in which it has been overlooked. Such patients have usually been treated for a respiratory infection. When there is a doubt the best thing is to look and see.

Types of foreign bodies represent a wide variety of objects. A few deserve special mention.

The peanut is frequently encountered in the bronchus or trachea. It contains a vegetable oil which sets up a violent inflammation. Even with prompt removal subsequent infection may prove fatal.

The bean swells rapidly because of its ability to take up moisture. Therefore, if in the trachea, both main bronchi may be ultimately blocked, with consequent suffocation. One of our patients missed death by minutes and only by quick removal.

One of the meanest problems either in the respiratory tract or esophagus, results from the open safety pin, point up. This situation has been most frequently encountered in the esophagus of infants. Perforation during manipulation is almost always fatal because of a subsequent mediastinitis. Furthermore, these infants, particularly the considerable number with a large thymus, will not stand prolonged instrumentation because of respiratory embarrassment; consequently one must work rapidly. The pin may be carried into the stomach, reversed, and brought out with trailing point. This was done in two instances successfully. In a number of our cases, where haste was essential, the pin was rapidly placed in the stomach and left. It is much safer there than in the esophagus. All but four were successfully passed. These four required gastrotomy but all recovered. A pin removed, but a dead baby, is no credit to us. Common sense and not pride should prevail.

There are a number of other mechanical phases of this subject amply discussed by Jackson in his textbook. Further discussion is not pertinent, particularly since we are reviewing only our own experiences.

In only two cases was it necessary to do a tracheotomy in order to deliver the foreign body. One was a broken piece of a pencil which we were unable to get past the cords. The dictum is that anything that goes down

can be brought out the same way. However, it is sometimes difficult to grasp the object in exactly the axis of descent. The other was an oblong glass bead, with curving surfaces such that the least resistance by the cords or by spasm of the glottis pulled this slippery object from the grasp of the forceps.

In only one child were we unable to pass a 4-mm. bronchoscope. She was 14 months of age and had a very small subglottic area. It was necessary to do a tracheotomy first, and then do a low bronchoscopy through the tracheal wound in order to remove her foreign body. Another interesting feature of this case was a very large thymus for which we advised and for which she received deep x-ray prior to instrumentation. We did at a later date a bronchoscopy through the mouth with a special $3\frac{1}{2}$ -mm. scope just recently put on the market by Pilling, and even then we were forced to put the child in an oxygen tent for 24 hours because of a secondary laryngeal edema to prevent reopening the tracheotomy wound.

Laryngeal edema after bronchoscopy is apt to happen in the younger babies. They should always be kept in the hospital for one- or two-days' observation. If severe, immediate tracheotomy should be done. This is particularly indicated if a lung infection exists after which we can aspirate through the tracheotomy tube with a rubber catheter and suction machine. Nevertheless, we have not had to use this as a postoperative procedure in more than two per cent. of our cases. Most foreign bodies were delivered in the first five minutes. In very few were we longer than 10 minutes. It is better to withdraw and go in a second time than use prolonged instrumentation. The gentlest of manipulation, team work, and short working periods are the essentials in avoiding tracheotomy. Practically all children were treated without any anesthesia, and only local anesthesia was induced in adults.

The mortality for the whole series was six, which is between two and three per cent. One was in a child with an open safety pin in the esophagus. Autopsy showed that it had penetrated the esophagus and pericardium. The other five were due to infections in the lung following foreign bodies, two of which were peanuts. Death occurred despite the removal of the foreign body because of a severe infec-

tion that already existed and which we were unable to control despite tracheotomy and repeated aspiration.

This series does not include several cases where finely chewed pieces of some vegetable material such as a walnut or cocoanut have been aspirated. A violent pneumonitis ensues. Several bronchoscopies at intervals of several days to one week are usually necessary, at which time suction aspiration through the bronchoscope followed by the introduction of a bland aromatic oil is carried out. Recovery has followed in all such cases.

This series includes only foreign bodies actually recovered. In all we have examined bronchoscopically some 300 patients for foreign bodies. It has been the exception, therefore, not to find a foreign body when the history was significant. In only three patients was the foreign body expelled by coughing.

Roentgenograms of non-opaque foreign bodies in the respiratory tract sometimes give useful information. There may be emphysema with trapped air or an obstructive atelectasis with corresponding cardiac displacement. With non-opaque foreign bodies in the esophagus, one must be guided by the history and the clinical picture.

We recently had a case in which a button in the esophagus was almost overlooked because the x-ray did not reveal its shadow. The child was finally sent in because of persistent vomiting. Usually a button gives a shadow but our own roentgenogram showed nothing either. Because of the history, an esophagoscopy was done and a large button removed from the upper esophagus.

In conclusion, we would say, that when a suggestive history of foreign body is obtained, it is best to give the patient the benefit of the doubt. Modern methods make it a safe procedure in experienced hands.

—The Charlotte Eye, Ear and Throat Hospital.

OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*

THE FAMILY DOCTOR AND THE WHITE HOUSE CONFERENCE, WITH REFERENCE TO WELFARE OF CHILD AND MOTHER

This Department is in favor of the family doctor, but it is anxious that the family doctor improve his methods and his management of cases which fall into his hands in obstetrics.

We have few ways of finding out how well our work is done, and one of those ways is the sum total of the results obtained in the field of obstetrics in the registration area of the United States each year. If the family doctor would take time to study these results, he would soon come to the conclusion that his work is probably good, but not as good as it should be, and that there is a big field for improvement. From time to time, we have emphasized the importance of proper prenatal care, management of delivery and postnatal care. We are going to emphasize these points for the reason that our results are not satisfactory, and not all family doctors are doing first class work in obstetrics in the United States. Many obstetricians are daily endeavoring to correct mistakes which have been made by family doctors, and they are having to add these results to the results which they themselves are obtaining, and therefore their records are not as good as they should be.

The majority of babies delivered in the United States are delivered by family doctors. That being the case, our motive should always be to assist the family doctor in seeing the facts, and to encourage him to become thoroughly equipped, until he himself would be able to do as good work as the obstetrician or so-called specialist.

In this connection, we wish to quote rather extensively from an address delivered by Dr. Fred L. Adair of Chicago at the White House Conference, and these questions are taken from the subject "Prenatal and Maternal Care".

"We have annually in the Birth Registration Area, approximately 15,000 maternal deaths, 80,000 deaths of infants under one month, and 85,000 stillbirths. Three-fourths of the maternal deaths are due to controllable causes—infection, toxemia, and hemorrhage. The fetal and early infant deaths are due to congenital and hereditary conditions, prematurity, birth injuries and infections, many of which conditions can be controlled. The disabilities resulting to mothers and infants are an unknown quantity, but the beds in hospitals are occupied by many women who require operations for conditions dating from childbirth.

The blind, defective and otherwise handicapped children, which number 8,571,000 according to President Hoover, are, in many cases, thus afflicted because of conditions which are inherited, congenital, acquired at birth, or immediately subsequent to it. Much of this could be prevented. There are in this country 14,000 children who are totally and 50,000

who are partially blind. Many of these can trace this condition to syphilis and gonorrhea, which can be practically eliminated as causes of blindness in infants and children by adequate prenatal and postnatal care.

There are 300,000 crippled children, many of whom can date their disability from birth. Some of these conditions are congenital and could not be avoided. In others, the deformity has resulted from birth injuries which have affected the central or peripheral nervous systems, the muscles, bones, or joints. It would not be possible to avoid all of these casualties, but the better the obstetric care the fewer there will be. Appropriate postnatal care would bring many of these conditions to light so that prompt measures could be instituted for their correction. There are 382,000 children with tuberculosis, most of whom have doubtless acquired it within the family circle, many of them from their mothers. The detection of an open tuberculosis in mothers during the antepartum and postpartum periods would not only safeguard them, but also go far in protecting infants from the dangers of acquiring tuberculosis. The loss of the mother has undoubtedly been a contributing factor in the production of 200,000 delinquent and 500,000 dependent children, and inadequate maternal care comes in for its share of blame as a cause for the 450,000 mentally retarded children and of the 675,000 presenting behavior problems. Nothing was said by President Hoover regarding the number of children afflicted with syphilis, but Stokes, from a wide variety of sources, estimates that the incidence of syphilis in the child population ranges from 3 to 5 per cent".

We do not care to review this quotation, but simply to emphasize the necessity of a most careful study of it, and remember that this does not represent all the births that occur annually in the United States, and that there are a great many maternal deaths, stillbirths and infant deaths which are not reported. These facts only draw for us a dark picture of the results we are obtaining.

From time to time, efforts are put forth in various local communities to develop prenatal clinics, and every time this occurs we find family doctors objecting to it. The probabilities are that the biggest objection is that they themselves fear they may lose an occasional case. They are afraid that the obstetrician may monopolize the field, and thereby gain in fame and money. These two things should be furthest from our mind, and the sole object of our endeavors should be to give to these young women the best service. Dozens of White House Conferences can never solve the big problems in these fields. They will have to be solved by individual doctors

and groups of doctors, in every community. We have an abundance of machinery already in existence, and this machinery ought to be hooked up in a coöperative way, so that every community could be receiving adequate service with reference to managing and taking care of expectant mothers.

There is also another important need which we should face, and that is this:

A proper classification of our cases in obstetrics, so that we can determine the cases which have a reasonable and first-class chance as having had proper prenatal care and delivery, and that group of cases which have had no chance and no prenatal care. If these groups could be separated and properly studied, we feel reasonably certain that the results would be so gratifying that if the facts could be revealed to the public at large, the profession would be forced to organize in some way so as to give every woman proper care and consideration. Also that class of cases in this field which have had some kind of interference should be checked and grouped and the results observed, and in this way we will be able to set up some sort of machinery which would prevent so much interference, because we are very sure in this group of cases that we are having, each year, thousands of maternal and fetal deaths which could be prevented. We again quote from Dr. Adair's address, illustrating the points which we are emphasizing:

"Some recent statistics from the Federal Children's Bureau covering 7,346 maternal deaths in which the period of gestation is known: 2,381, or practically one-third of the deaths, followed an interruption of pregnancy prior to the seventh month. Of these, 59 per cent., died from sepsis, while 4,965 patients died after a pregnancy of seven months or over, 30.8 per cent. died from infection, and 31.2 per cent from toxemia."

Another point we want to emphasize in this connection that in our medical schools obstetrics has received a minor place, whereas surgery and medicine have occupied major positions. The average family doctor finds that a good percentage of his practice is obstetrics, then there is a real demand for medical schools to place obstetrics in a major position. The family doctor will be able to accomplish a vast deal more in obstetrics than he can in surgery, so it would be better for surgery to have a minor place than obstetrics; but we feel that both of these subjects should occupy similar positions, and the family

doctor should be well trained in obstetrics and surgery alike.

We are told that in a little while there will appear in print a complete report of the White House Conference. This report will probably be in several volumes, and it will require considerable time to read and study these reports. We believe it will be worth while to family doctors to obtain copies of these reports and study them most carefully. This Department is in favor of every family doctor being a first class obstetrician.

HOSPITALS

MERCER C. PARROTT, M.D., F.A.C.S., *Editor*

FOREWORD

When one considers the struggles of the pioneers in hospital work in North Carolina, it causes the problems of the present day to shrink by comparison. When one hears the "old-timers" tell of the ignorance and prejudice they had to overcome, of the poorly-equipped institutions, of the poorly-prepared staffs and nursing corps, of the constant battle between the "inside" and "outside" doctors, and of the ever-existing poor collections, it makes one feel that the problems brought about by the present financial depression may not be impossible of solution.

I am sure we all realize that if our hospitals are to continue to exist and function efficiently, we must have coöperation. And this coöperation must be enthusiastic, and must be fostered and encouraged by those most directly concerned in the welfare of our hospitals, in order to arouse in others a realization of the necessity of keeping alive our institutions.

We are deeply grateful to the editor of our journal for his very great kindness in allowing us space in his publication for this new Department of Hospitals; and I am sure that Dr. Northington will feel amply repaid for his kindness, if we will reciprocate by bending our efforts towards making this department worth while to our hospitals, thereby benefiting, at the same time, the medical profession and the whole public.

As editor of our newly-created department, I am soliciting help from others of the profession. I shall appreciate suggestions, criticisms and contributions of articles for use in this column. It is my honest intention

and earnest desire to do whatever I can to further the interests of our hospitals through the medium of this department. I shall, from time to time, present certain problems with which we are confronted, and endeavor, with the help of others, to find solutions of these problems.

It may be that the days of the privately-owned hospitals are numbered. But, if this be true, there are a lot of us who still adhere to the hope that the number of days is a large one. Until the general public can be taught that the hospital is a community asset and necessity, the smaller cities and towns must necessarily depend upon the public-spirited physicians who are willing to undertake the ownership and operation of the hospitals. And these same public-spirited physicians need and deserve a high grade of loyalty and coöperation in their own staffs and from outside doctors in order to carry on.

"The strength of the wolf is the pack." Our hospitals must pull together for the common good. And, last but not least, we must present the cause of our institutions and ourselves to the general public in a persuasive and convincing way in order to obtain the interested coöperation to which I feel we are fully entitled.

FIRST AID FOR THE GENERAL PRACTITIONER IN EYE, EAR, NOSE AND THROAT CASES

(Weiss, C. A., Baton Rouge, New Orleans M. & S. Jour., June)

When the average general practitioner can as quickly and accurately diagnose acute middle ear and mastoid infection as he can infection of the abdomen, and when he urges surgical help as quickly in one as the other, we shall have fewer cases of chronic suppurative otitis with impaired hearing and probably fatal termination. *To this end one of the duties of the specialist should be to advise the general physician and surgeon in every way that will render him more useful to the community.*

A Puff for Conscience

The plumber worked and the helper stood helplessly looking on. This was his first day.

"Say," he inquired, "do you charge for my time?"

"Certainly, you idiot," came the reply.

"But I haven't done anything."

The plumber, to fill in the hour, had been looking at the finished job with a lighted candle. Handing the two inches of it that were still unburned to the helper, he said witheringly:

"Here, if you gotta be so darned conscientious, blow that out."—*Masonic Craftsman.*

In Memoriam

Hobart Amory Hare

Alumni of Jefferson Medical College, wherever located, have learned with sorrow of the death of Professor Hobart Amory Hare. And yet, I can see their faces relax at some affectionate memory that not even death can efface. In our profession, great men are many, great teachers are few, and rarest of all is the individual in whom is combined the qualities of a great scholar and a personality which stimulates and sustains the unwavering interest of his students. The faculty of Jefferson Medical College has had an unusual number of these exceptional men and, in my opinion, none greater than Hare. I remember, upon many occasions, when, at the end of a dark winter day, the class would assemble at five o'clock to hear the day's lecture on therapeutics. Tired, irritable, blue and homesick, one asked himself—"what is the use of it all anyway?" Then, the door beside the desk would open and Professor Hare would come briskly in, his face wreathed in smiles. It was as if a burst of sunshine had suddenly flooded the gloomy old hall. With answering smiles and a noisy welcome, the class would snap to alert attention and the last hour of the long day would begin. It was sure to be full of interest and was never long. I have never known the interest of his students to flag for a moment. After a life as long, as fruitful and as full of service as his, why should those of us who loved him begrudge him his well-earned rest? His work has been well done and it is for us to attest it.

Widely as Doctor Hare was known as scholar, author and teacher, it is his personality which will be most sadly missed, for through it he has helped to mould the character, the ethical standards, and the professional ideals of thousands of Jefferson graduates. A brain can be replaced and the work go on, but a heart fills forever its own niche in the lives of us all.

Hobart Amory Hare is dead, but his memory and his spirit will live long at "Old Jeff"

and in the lives and the characters of the men he has taught. Surely this should be his most enduring monument.

—Charles S. Mangum.

(Jefferson '94) The University of North Carolina.

John Osborn Polak

With the death of Dr. John Osborn Polak on June 29th, 1931, one of the truly great leaders and teachers passed from the field of medicine. Dr. Polak was 61 years of age and active until the time of his death which occurred suddenly following a heart attack.

Equally renowned as an obstetrician and gynecologist both in this country and abroad, commanding a lucrative private practice, rising to the heights as a medical educator, he was truly a great man possessing that rare genius, never dimmed by his success, of making even the humblest of his associates regard him as a warm personal friend.

Dr. Polak was a prolific writer and the author of a number of textbooks and manuals. For a number of years, with Dr. Joseph B. DeLee of Chicago, he edited the annual handbook of recent advances in Obstetrics and Gynecology of the Practical Medicine series. In gynecology he was noted particularly for his work on pelvic infections. In obstetrics he was fundamentally conservative and, during an era when operative obstetrics was the rage, persistently held that early and unjustifiable interference was the greatest factor in the production of our high obstetric morbidity and mortality. Believing good obstetrics more frequently related to the conduct of labor than difficult operative procedures, Dr. Polak was an ardent supporter of a modified twilight sleep, using repeated doses of scopolamine supplemented by gas and oxygen.

At the meeting of the Medical Service Section of the White House Conference on Child Health, held in Washington in February, Dr. Polak was one of the principal speakers; there he urged better national, state and community care of mothers. A firm believer in the importance of the midwife in any national obstetrical program he outlined in his committee report suggestions for her improvement, not her abolition.

"Your committee is convinced," said he, "that the time has come to establish a nationwide obstetric program which should have the backing of the Federal Government, the State and County Health Departments and the endorsement of the national obstetric groups and welfare agencies. It is conceded to be the right of every prospective mother to have proper prenatal care. She should also be provided with the means and the machinery to have a safely conducted delivery. For years the National Government and the States have provided sanatorial treatment for the tuberculosis patient; how much more important it is to have a healthy child born of a healthy mother, and the woman restored to her economic value in society for the care of this and her other children. Surely no nationwide project deserves greater support."

Dr. Polak was a graduate of Rutgers University and the Long Island College Hospital. He was professor of Obstetrics at Dartmouth Medical School from 1901 to 1912, and had occupied the chair of Obstetrics and Gynecology at Long Island College Hospital (name changed to Long Island College of Medicine in 1930) since 1910. To the latter institution he presented a \$125,000 science laboratory three months before his death.

—*W. Z. Bradford, Charlotte.*

John Robinson Irwin

It is appointed unto man once to die. Death is no respecter of persons. The high and the low, the rich and the poor, the useful and the useless, the unborn babe, the tottering aged—no matter, he visits them one and all, some with sudden summons, others with repeated threats and feints according to his mood.

When he comes to the doctor it must be with a flood of recollections, reminiscent of bygone days when they sat vis-a-vis across the sick bed and watched the flickering light of life come and go, or when they passed upon the stairs and did not speak for hope was gone. And there might be the remembrance of many happy times when death was cheated and life prolonged and joy and health came back to gladden the heart.

For fifty-and-four years Dr. Irwin ministered to those who were sick and suffering. During a whole span of average life he was busy helping those who were fearful and in

pain, and he leaves behind him a splendid record of faithful service. In such a practice of so many years there must have been many of "the least of these" to whom he ministered.

Dr. Irwin was among the stalwart with a commanding physique and to the year of his death he stood like a soldier in the line, in form and figure every whit a man.

Industrious and prompt in his work he prided himself on being always on time and ready for the duty of the hour.

He was of distinguished lineage. Some years ago Dr. Holmes said that we should be careful in selecting our ancestors. Dr. Irwin could have no regrets on that score. He was to the manor born.

Bismarck claimed three things to have have him the man he was—Pride, Ambition and Hate. Dr. Irwin had the first two, but not the last. He might have had a laudable pride in his birthright. He had pride in his profession. It was to him a high and noble calling and he practiced it with a gracious dignity. The insignia of his shield he kept without spot or tarnish.

He had ambition, too. He always put his best foot forward. It was his delight to do his work well. Whether it was small or great he took time to prepare. It might be a lecture to the nurses or a major operation, he did his best. His ambition was to be helpful.

But he had no hate or malice in his heart. For his conferees he had every good wish and was always glad to help them in any case. He was always considerate of his colleagues both inside and outside the home and hospital. He felt that practitioners of medicine were brothers, and there was no spite or jealousy in his dealings with them. Still he was a competitor with every doctor who did good work. An active and helpful and friendly competitor, such competition as is the life of progressive medicine.

So when death came to the doctor, he was ready and met his old enemy with a smile. He could say—I have fought a good fight with you these many years for others, but today you may lead me as a friend and guide to that place where there is neither time nor space but filled to overflowing with promise and with grace.

—*George W. Pressley, Charlotte.*

Southern Medicine and Surgery

OFFICIAL ORGAN OF
TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA

MEDICAL SOCIETY OF THE STATE OF
NORTH CAROLINA

JAMES M. NORTHINGTON, M.D., *Editor*

Department Editors

HUMAN BEHAVIOR

JAMES K. HALL, M.D. Richmond, Va.

PEDIATRICS

CHILDREN'S CLINIC GROUP Black Mountain, N. C.

E. K. McLEAN, M.D. Charlotte, N. C.

DENTISTRY

W. M. ROBEY, D.D.S. Charlotte, N. C.

EYE, EAR, NOSE AND THROAT

EYE, EAR AND THROAT HOSPITAL GROUP
Charlotte, N. C.

LABORATORIES

THE BARRET LABORATORIES Charlotte, N. C.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D. Gastonia, N. C.

UROLOGY

HAMILTON W. MCKAY, M.D. Charlotte, N. C.

ROBERT W. MCKAY, M.D. Charlotte, N. C.

RADIOLOGY

J. D. MACRAE, JR., M.D. Asheville, N. C.

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D. Charlotte, N. C.

INTERNAL MEDICINE

PAUL H. RINGER, M.D. Asheville, N. C.

SURGERY

GEO. H. BUNCH, M.D. Columbia, S. C.

THERAPEUTICS

FRDERICK R. TAYLOR, M.D. High Point, N. C.

OBSTETRICS

HENRY J. LANGSTON, M.D. Danville, Va.

GYNECOLOGY

CHAS. R. ROBINS, M.D. Richmond, Va.

NEUROLOGY

OLIN B. CHAMBERLAIN, M.D. Charleston, S. C.

HISTORIC MEDICINE

VARIOUS AUTHORS

PUBLIC HEALTH

JAMES ADAMS HAYNE, M.D. Columbia, S. C.

GEO. M. COOPER, M.D. Raleigh, N. C.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D. Winston-Salem, N. C.

HOSPITALS

MERCER C. PARROTT, M.D. Kinston, N. C.

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

A SKETCH OF NORTH CAROLINA'S NEW HEALTH OFFICER

Dr. James M. Parrott was born 57 years ago in Lenoir county, and there has been his home ever since. He attended private and public schools in his county, at Kinston and at Wake Forest College, studied medicine at the University of Maryland, Tulane and abroad, and has taken more than a score of postgraduate courses in this country.

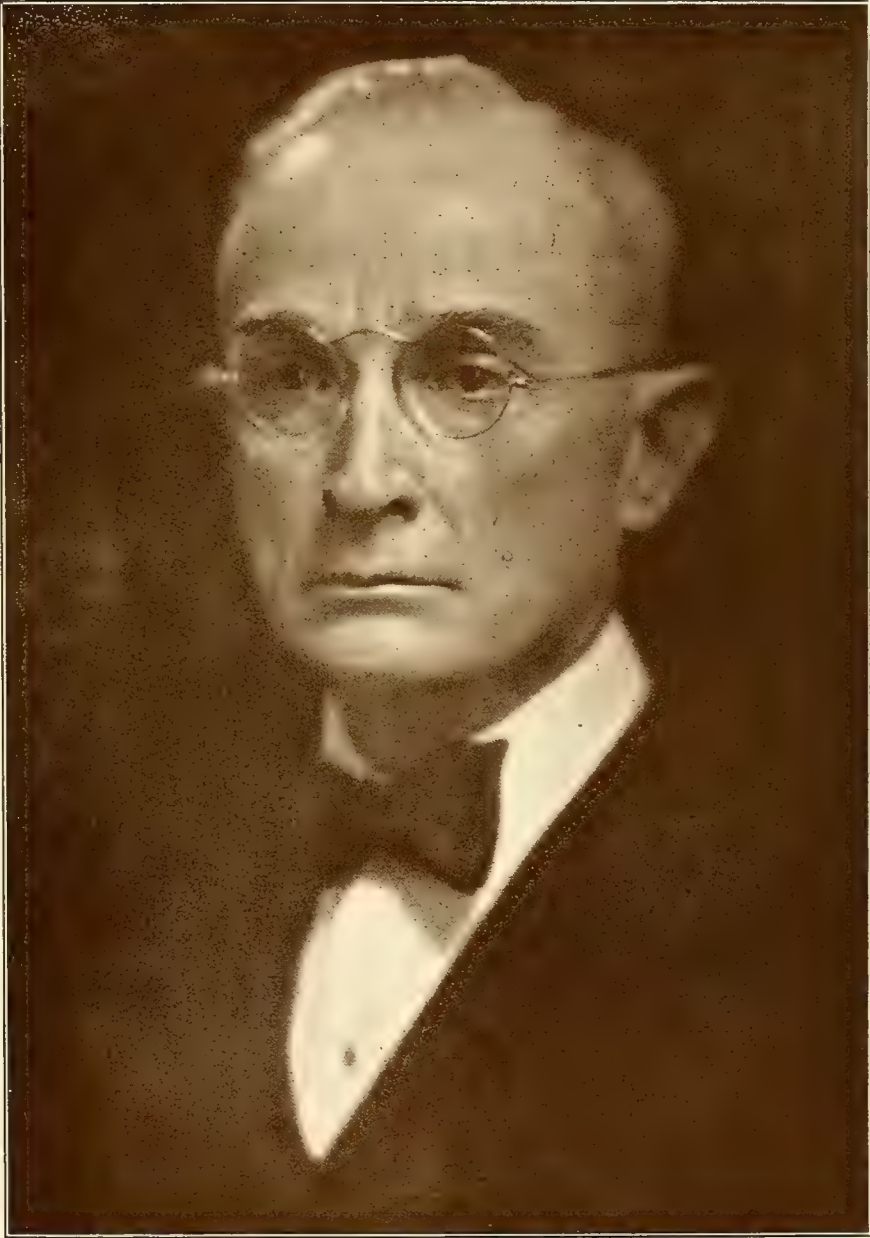
He was licensed by the State Medical Examiners at Goldsboro in 1895, since which time he has missed only one meeting of the Medical Society of the State and that was in 1898 while serving in the United States Army of Occupation in Cuba.

He is a member of the American Medical Association and a fellow in the American College of Surgeons. He has served as chairman of several sections of the State Society; twice vice-president and later president of this Society; member of State Board of Medical Examiners; member Board of Nurses Examiners. His services on many important medical committees have been invaluable. His interest in Public Health activities has been active through the years. He was Sanitary Officer in Cuba for the U. S. government, serving under Gorgas and Carter; County Physician of Lenoir County a number of years; has been President of the Atlantic Coast Line Surgeons Association; was Medical Director of the North State Life Insurance Company for eight or 10 years; has been a member of the Board of Trustees of Wake Forest College and President of the Board; a member of the Board of Trustees of the Hospital for Insane at Raleigh for a number of years, being President of that Board for one term.

He is married and has two children. Since his boyhood he has been active in church and civic affairs.

Following the death of his intimate friend, Dr. Cyrus Thompson, Dr. Parrott accepted appointment to the State Board of Health because of earnest appeals. He was elected by the State Medical Society in April in spite of his expressed desire that this not be done; then he was drafted by the State Board of Health for the Secretaryship over his protest.

He founded Parrott Hospital, Kinston, one of the first private institutions in this section, about 25 years ago and builded it to a large



hospital with an enviable reputation, retiring from that service four years ago, he is now the senior partner of the firm of Drs. Parrott and Sabiston.

He was one of the founders of the Tri-State Medical Association and the Seaboard Medical Society, though not now a member of either.

Dr. Parrott is a devoted organization medical man and has always taken a very active part and interest in Public Health activities and been a voluminous contributor to medical literature.

This unembellished sketch is written that the younger members of the profession and recent comers to the State may know what manner of man is this Captain of our Hosts of Health, he who is to marshal, direct and lead in our unrelenting warfare on the Conqueror Worm.

This record of achievement in other positions gives advance assurance for the first year. After the expiration of that year, judge of his capacity by what he has wrought in his new office.

—*A Friend through the years.*

STATE HEALTH OFFICER BESPEAKS SUPPORT OF DOCTORS

Our new State Health Officer has expressed the wish that it be stated in the Journal that the Board of Health is very anxious to stay in touch with the medical profession, that the Board wants to get much closer to the doctors in the State, and that any member of the Board or the Executive Staff will be very pleased to attend County and District medical meetings whenever the opportunity is presented. He requests that, as there are no funds to pay travel expenses on such visits, the member nearest the proposed meeting will respond, unless some particular individual is especially desired.

He is strong in the opinion that the Board is the collective contribution of the medical profession to the civilization of the Commonwealth and is the finest practical expression of our profession, our ideals and our hope. He concludes with, "The State Board of Health craves the earnest and enthusiastic support of the doctors of the State."

It is most gratifying to see this generous acknowledgement of what this journal has consistently maintained, an attitude quite contrary to that of those persons who were impatient that the office of health officer be

filled promptly for the express purpose of cutting off any action on the part of the doctors of the State.

One of the most important of problems coming down through the centuries, of which no solution is in sight, is whether fishing makes liars of truthful men, or only liars take to fishing. Another like unto it is whether holding public office makes asses of decent citizens, or none but asses ever get into public office. Recent correspondence with the State Banking Commission brought this forcefully to mind. But Dr. Parrott is, like each of his predecessors in this office, one of the rare exceptions to this rule.

Southern Medicine & Surgery pledges its unwavering support to the new State Health Officer in the prosecution of all his worthy endeavors—and promises to give him the benefit of every doubt; and it entertains confidence that the doctors of the State will respond in whole-hearted fashion to his generous acknowledgement and frank, earnest appeal.

THE STATE BOARD OF HEALTH AS THE PROPER AGENCY TO SQUELCH UNQUALIFIED PRACTITIONERS AND OTHER PSEUDO-MEDICS

In the debate upon the motion brought forward by me in the House of Commons on February 9th, 1926, asking for "an inquiry into the whole position of irregular practice in medicine and surgery"—under which heading, of course, osteopathy figured prominently—Mr. Neville Chamberlain, the then *Minister of Health*, made a vitally important official pronouncement, which has served as a very effective check upon efforts on the part of various unqualified practitioners to secure recognition.

In the United States, the happy hunting ground of quacks of all kinds, osteopathy is only one of very numerous cults "recognized" in varying degree by the legislatures of the various States. It is difficult for us, but important, to realize that in the United States there is no general authority (in America it would be called "Federal"), such as is vested in our *General Medical Council*, to distinguish qualified from unqualified practitioners of medicine; consequently in every State conditions of admission to practice are peculiar to that State. [Italics ours.—S. M. & S.]—From a Letter to the *British Medical Journal*, June 6th, 1931, by E. Graham-Little.

For a long time this journal has been convinced that it is an important part of the business of the State Boards of Health to protect the citizens of their respective States

from the depredations of medical pretenders. In August, 1927, we said editorially:

"The State, carrying water on both shoulders, arranges through its Board of Health, that certain *limited information* be given out that it is well to be inoculated against typhoid; and by permitting eddy-ites, chiropractors, anti-vaccinationists, new-thoughters and other such, to go unmolested, aids and abets in the *general* diffusion of *misinformation* against all rational health measures."

In the very next month (Sept., 1927) we asked:

"Stockholders of newspapers and members of civic clubs tax themselves to *educate* the people of the State in rational health measures; why do they help wandering medical fakers to *uneducate* them?"

Some of them pay nurses to go out and teach women expecting to become mothers and the mothers of young children their dietary needs and how to meet them: why do they lend themselves to the propagation of misinformation on the same subject?"

In May, 1931, we nominated for the Presidency of the United States Governor Buck of Delaware, on his exhibition of the sense and courage to say:

"It seems to me it would be inconsistent for the Legislature to appropriate money for the State Board of Health, which Board is trying to eradicate communicable disease, and at the same time legalize the practice of a cult which does not believe in the germ theory of disease but does teach and believe that such diseases as scarlet fever, etc., are due to a distracted vertebra."

It is clear that, in Britain, on the General Medical Council headed by the Minister of Health, devolves the duty to "distinguish between qualified and unqualified practitioners"; also, that Boards of Health and the Health Officers of our different States have duties, in their respective States, comparable to those of the General Medical Council and Minister of Health in Britain.

The reason for the existence of the State Board of Health is that it may reduce sickness and postpone death. Its main method of procedure is through education of the citizenry of the State in health measures which experience has shown to be efficacious. The main approach to the citizenry is through their own doctors.

Why spend a lot of time, money and effort to convince the people of the State of the value of inoculations in the prevention or cure of smallpox, typhoid, scarlet fever, tetanus, rabies or diphtheria, or that tuberculosis and

cancer must be treated early; and then license chiropractors, or allow itinerant fakers to, by word of mouth, newspaper advertisements and radio, undo our work? To suffer such a state of affairs is as contrary to reason as to buy a vast watershed, move everybody else off to insure an unpolluted water supply, then allow everybody who says he doesn't believe in germs to run his sewage into the stream.

Clearly suppressing the activities of such persons is a public health measure of the first magnitude, and somebody should do it. Who? Equally clearly, public health officials. Doctors in private practice often *have* it to do because no one else will; but that doesn't change the situation as to who *should*.

The State Board of Health is in much better position to obtain and keep on file accurate, dependable information on medical and near-medical fakers than is any other agency.

The Mecklenburg County Medical Society has had occasion to apply to the Bureau of Information of the A. M. A. a number of times on matters of this kind, and it has a rather enviable record for speeding such unwelcome guests on their way. This Bureau says it will be very glad to keep State Health Officers posted on doings of such persons, so far as the Bureau learns of them.

Health officials are in far better position to effectively discredit medical pretenders than are doctors in private practice. Health officials draw their salaries from the public till, and so can not be suspected of speaking out against impostors because of "professional rivalry"—as was done in Charlotte recently when doctors in private practice successfully conducted an exposé. A good many of the laity are disposed to think: "Since our paid public health officials—all experts—do not take steps to hinder the activities of" this, that, or the other one, of whose exploits and whose wisdom he reads in the daily papers, "Dr. So-and-So must be all right; if he were a menace to the public health, it is plain that those paid to look after the public health would be after him." Plausible, is it not? Doctors in private practice think it unfair for their public health officials to leave them in the lurch and make it necessary that they place themselves in so exposed a position.

Although by no means a professional optimist, we are confident that our health offi-

cials—State, county and town—will agree on the sweet reasonableness of this suggestion, and that its energetic putting into practice will greatly advantage the health and happiness of the people of the State.

BEST LOVED VIRGINIAN DIES

The ingratitude of republics is proverbial. Generally, "gratitude is," as Lord Rosebery so aptly put it, "a lively appreciation of favors to come." There are some, though, whose very greatness of soul compels the tribute of our affections. Such a one was Dr. Ennion Williams, Commissioner of Health of the State of Virginia, who died June 6th.

Our own recollections of Dr. Williams are mainly as a teacher—of great earnestness and learning, but, even more conspicuous for modesty, gentleness and patience. He was one of the two strong, manly men of our knowledge, of whom it could be said that their properest quality was sweetness.

Many years have passed since those classroom and laboratory impressions were gained. Those whose lives have mingled with his since then even to the last few days of his life, attest that those qualities of rare loveliness but blossomed into fullness with the passing of time.

Let speak those who knew him most intimately.

His Governor said of him:

"Dr. Williams passes to his reward after a quarter of a century of faithful public service. Seven Governors, obedient to the sentiment of the people of Virginia, have successively placed upon him the sacred trust of protecting the public health. The skill and fidelity with which he performed his task is known from ocean to ocean. He has fought and conquered diseases which formerly were prevalent among our people.

Protection of public health was the one passion of his great soul. He was a lover of humanity. He gave his life to relieving human suffering by preventing the spreading of contagious disease. There are thousands living in Virginia today who owe their very lives to efforts originating in his ever-watchful mind.

If greatness be measured by unselfish service, Ennion G. Williams was a great man."

Dr. William T. Graham, president of the Virginia State Board of Health:

"He was deservedly the best loved Virginian of his day and he served his State more loyally and unselfishly than any man I've ever known."

Dr. Williams had been State Health Commissioner for more than twenty-two years. In point of continuous service he was the oldest health official in the United States.

Prior to his first appointment as health commissioner he was a member of the City Council 1906-08, and while in that body he devoted himself especially to reorganizing the City Health Department. He created the office of city bacteriologist and inaugurated many reforms in the City Hospital.

June 7th the Richmond *Times-Dispatch* said editorially:

"A fine mind, a devoted spirit, an excellent technical skill were dedicated to the service of his native State. Ennion Williams was born a gentleman. He lived the part all his life. His was the heritage of *noblesse oblige*. He carried it nobly; unconsciously, of course, but nonetheless surely.

For nearly twenty-three years Dr. Williams had been Virginia's State Health Commissioner. He carried to the people of Virginia the gospel of better living. In his achievements he proved that these were the proper preachments.

There was never a sweeter personality than that of Ennion Williams. To know him was to love him. His technical skill was magnificent. His grasp of public health questions was the marvel of his associates, his progress in solving the peculiar problems that faced his own State will be an enduring monument to his memory. But above all this, and back of it, was the man's splendid character. He exemplified the breeding of centuries.

Dr. Williams came into the service of the State during the administration of Governor Swanson. He was never to leave it. His worth was known to all succeeding Governors, and reappointments were made as a matter of course. His work was held to be indispensable. And he, on his part, was thoroughly and splendidly conscientious in declining such offers of material advancement as would take him from a vital service to Virginia.

In point of the years of continuous service, he was the oldest health official in the United States. His colleagues in the work valued his counsel and heeded it as do pupils sitting at the feet of a master. That is on the technical side; on the personal side, the grief at his passing will be deep and poignant. A great man and a good physician has been taken from a multitude of friends."

A few hours before Dr. Williams breathed his last the editor of the *News-Leader* in his native Richmond wrote:

"Governor Pollard very properly has said that Dr. Williams is to consider himself health com-

missioner, whether his sickness is long or short. That was the governor's first impulse, and was what the public would have demanded in the case of a man whose public service for more than twenty years has been a parable for the inspiration of others. . . .

There is at least a good chance that Dr. Williams will shake off his illness and return to active administration. All Virginia hopes so. If his recovery does not permit of the assumption of full duties on his part, then the general assembly, which knows him for his true worth, will doubtless so amend the health laws as to keep him titular head of the department, at his full salary, for the rest of his life.

Nothing that Virginia can do for Ennion Williams will ever half repay him for what he has done in her behalf."

Two days later, his hope that the great doctor might live having failed, this editor was moved to write of his dead friend:

A GREAT IDEALIST PASSES

Nearly twenty-three years have elapsed since that July morning in 1908 when Ennion Williams took office as Virginia's first health commissioner. Daniel and Martin sat in the senate then. Swanson was governor. The memorable "May campaign" for education was recent history. Under its impetus, Eggleston was reorganizing the department of public instruction and Alderman was performing the first of his epochal labors at the University of Virginia. The state board of charities, germ of the department of public welfare, was a new creation.

Varied as were the new activities of the state at that time, the creation of a modern health department under Dr. Williams will perhaps rank first in its social effects. . . . Eggleston went to V. P. I. and then to Hampden-Sydney. St. Julien Wilson left the highway commission for the Federal Bureau of Roads. His successor, George Coleman, in time resigned. From tired hands, Dr. Mastin, creator of the present department of welfare, ultimately gave over the care of jails, hospitals and dependent children to a young man. Ennion Williams, remaining, pressed with unwearied zeal to the goal his clear-eyed wisdom had seen from the time when, as a boy of 18, he had confessed a wish to devote himself to the nascent science of preventive medicine.

Governor after governor passed as he labored on. The heat of politics shed a glare that confused popular judgment of the real values of public life. Quietly unmindful of lesser things, he wrought a revolution that will show in the life of Virginia long after men who shouted and strutted in the contention of office-getting and office-holding are lifeless entries in a cold list of names that have no meaning.

What Ennion Williams did for Virginia is to be judged outside his office, not in it; is to be judged by faces, not by figures. Every well-nourished child in the commonwealth is his debtor. Each smile of health is a tribute to him. People who have never even heard his name owe to the work he inaugurated their escape from the white plague that slew some member of their family. The joys of the vacation season that now is opening in Virginia are heightened by the state's freedom from the tyranny of typhoid that once sent hundreds home in misery from resorts and from countryside. The laughter of healthy thousands, splashing in spray or climbing mountains today, as his weary body is laid to its last rest, does him greater honor than their tears could.

The educational work that he always put first has accomplished more for the public health than could have been achieved with ten times the money employed in the attempted enforcement of laws and regulations imposed with sanctions on people to whom they were not explained. He was the wisest sanitarian of his day in Virginia, and perhaps in America, because he had the fullest of faith in health education. When he had convinced the public of the personal, practical, economic value of public health, he had simplified and stimulated in every Virginia community the appropriation of funds for sanitation. He made public health a public demand.

A health commissioner of the strictest sect of science might have avoided some mistakes that were made and might have fathered more researches than were born in the Virginia laboratories during Dr. Williams' administration. Pressure and threats might have induced more counties to set up adequate local organization. A publicity expert schooled in war-learned lessons of propaganda might, perhaps, have excelled the methods Dr. Williams inaugurated six years before the war, when he was only 34. By subordinating all else, an adroit politician might have survived as many changes of administration and might have won as large appropriations from the general assembly. The loving loyalty of a widely-scattered staff might have been the reward of another man of like personality. But the sum of these things could have been given to him alone, because there was only one Ennion Williams in the priceless combination of character, energy, equipment, clear vision and personality.

Public health was to him all that philosophy was to Kant, all that poetry was to Keats, all that aviation is to Lindbergh. It was ministry and meat, duty and delight. Caperton Braxton used to say that when he was in the constitutional convention, the people of Virginia were

his clients; Ennion Williams never employed a self-conscious phrase, but his life was proof that he regarded Virginia as his patient. He had great capacities in many directions and love of many things that were lofty and beautiful, but he permitted no interest to take his mind from his mission.

Yet he had none of the austerity of a reformer. He could deal hard blows and fight with boldness. He could be plain-spoken and unyielding, but his nature was gentle and his impulses so gloriously unselfish that one never thought of him as rueing a sacrifice or weighing an advantage. His sincerity was disarming, his regard for even the humblest of his fellow-workers was constant, and the splendor of his character so transparent that any man who had been in his presence went away congratulating himself that he had kept such company. In his kindly eyes, the world was a multitude of individuals, to each of whom he had an obligation. The only quality that rivaled the greatness of his soul was the sweetness of his spirit.

Dr. Williams left a pioneer private x-ray practice to undertake a work in which he had 2,000,000 masters. He sacrificed the social eminence of a comfortable home for weary nights on sleeping cars and weary days in unhealthy small towns. A natural diffidence in public address he mastered for the cause he had espoused. In purse he died poorer, perhaps, than when he dismissed his well-paying patients in 1908. The nervous exactions of public service wore him out at 57. Yet his was a career that set the true values of life against the false pleasure of ease and the emptiness of wealth. Who could be richer than he who had enriched a whole state because he had chosen an unselfish ideal and had unselfishly pursued it?

From the life of such a man certainly there is much to learn and to gain.

Worthy of that emulation which is the sincerest praise is he who could conduct the complicated affairs of a State Health office for twenty-two years so smoothly that not a jarring sound was heard across the border, so ably that his Governor and the spokesmen for his people vie with one another in paying him tribute, and so gently and considerately—so sweetly, indeed—as to have made him “the best loved Virginian of his day”—and “deservedly.”

ASST. SURGEON-GENERAL U. S. P. H. S.
BECOMES HEALTH COMMISSIONER OF
VIRGINIA

Dr. Warren F. Draper, Assistant Surgeon-General of the United States Public Health

Service, was tendered the appointment as State Health Commissioner of Virginia by Governor John Garland Pollard on June 8th to succeed the late Dr. Ennion G. Williams, who died on June 6th.

The United States Treasury Department approves the assignment of Dr. Draper, and directs him to come to Virginia for an indefinite stay.

The assignment permits Dr. Draper to retain his rank and privileges in the federal service, and at the same time serve Virginia under statutes permitting Federal-State cooperation in public health work.

A veteran of twenty-one years of work with the public health service, Dr. Draper has been a resident of Virginia for seventeen years. He lives at Cherrydale in Arlington county. He is a graduate of Amherst College and of the Harvard Medical School and his entire career has been spent in the preventive medicine field.

PRESIDENT AMERICAN BUREAU OF CHIROPRACTIC GIVEN WORKHOUSE SENTENCE FOR PRACTICING WITHOUT LICENSE

As a test case, William H. Werner, President of the American Bureau of Chiropractic, was recently placed upon trial in New York State for the practice of chiropractic without license. While 40 States of the Union recognize chiropractic and have some legalization act upon their statute books, New York has never given them legal recognition and for this reason has considered the practice of chiropractic as outlaw.

The case of the State of New York against Chiropractor Werner is significant since Werner, said to have an income of \$70,000 a year, introduced some 200 patients before the court in support of his contention that chiropractic was a healing art and upon this ground demanded legal recognition. It would appear from a report of this trial that Werner disregarded the issues involved and attempted rather to convince the judge of the excellence of his art and on this basis to establish a precedent which would permit other chiropractors to practice with impunity within the State. The trial judge, however, insisted upon a presentation of the case within the terms of the court of the State and on this basis found Chiropractor Werner guilty and sentenced him to six months in the workhouse.—*Editorial in an Exchange.*

Can anybody imagine any kind of medical pretender being given a workhouse sentence in North Carolina? Or anybody having an

income of \$70,000 a year from any source, for that matter?

The men we hire and pay to enforce our laws agonize before meetings of various orders, lodges, Sunday school conventions and anniversary celebrations about "the solemn oath I have taken to uphold and enforce The Law"—when they are talking about the 18th Amendment, the Volstead Act and the Turlington Act.

Any kind of faker can come from anywhere and violate the medical practice act wholesale and with impunity heralding the fact forth daily by radio and newspapers. Within the past month a private detective told the officials of a county medical society that he had evidence which would convict of the commission of criminal abortion. He was told to present his evidence to the hired prosecutors. Apparently "against such there is no law."

Apparently, also, "all the law is fulfilled in one word"—to wit, *prohibition*.

MAKE A WOMAN COMFORTABLE AND LET HER BEAR HER CHILD

A warning should be disseminated that compliance with the insistent demand of women for shorter and more comfortable labors inevitably implies risks both for mother and baby. Interference with pregnancy or labor should be limited to well-defined indications.—*From the Report of the Subcommittee on the Causes of Fetal, Early Infant and Maternal Morbidity and Mortality.*

Following the example of President Roosevelt and President Wilson, President Hoover recently issued a call for a Conference on Child Health and Protection. The superscription, from the report of an important subcommittee, voices the conviction of this journal as expressed many times over many years.

Hardly a day passes but it brings to our desk at least one strong condemnation of the itch for interference in labor. We rush madly through with what is in hand, frequently for no better purpose than to have a chance to sit all day complaining of having nothing to do. Speed, an insane world demands, and more speed. But doctors are alleged to be sane; we even set ourselves up to be intelligent leaders. Is it not plainly our part to calmly ask of ourselves and others, What good

comes of all this hurrying and scurrying, in general and in particular?

As applies to the instant subject, this urge for haste comes from patient, husband and doctor. The patient, naturally, is impatient to be out of her pain, and the husband to be relieved of his anxiety; while the doctor is eager to have importunities cease and to be back to his office or his bed. But, above all things, all three crave a healthy child and a healthy mother; and the most prosaic and old-fashioned of deliveries which eventuates in a healthy mother and a healthy child reflects more credit on the heart and brain of the doctor than does the deftest cesarean or a delivery by forceps or version whose sleight-of-hand the eye can scarcely follow.

Dr. Procter of Raleigh says in this issue our maternal and fetal morbidity and mortality will be reduced when we interfere in labor less frequently.

We have the choice of many means of making labor painless without interfering materially with the natural progress of the birth. Indeed, we know that, in many instances, relieving the suffering will hasten delivery with no other help from us.

As the Subcommittee says, "a warning should be disseminated," — *i.e.*, scattered abroad—in our meetings, in medical journals, in religious publications, in general newspapers.

Care for your patient properly throughout her pregnancy, if possible; anyhow, when she goes into labor in your care, make her comfortable, keep her comfortable, and let her bear her child.

GUILFORD KEEPS "DR." TAYLOR MOVING

In our issue for May was recorded how the Mecklenburg County Medical Society rid the City of Charlotte of one calling himself Dr. M. Sayle Taylor, lecturer on Married Love, by letting the public know that the Chicago *Tribune* had described his "message" as "appallingly crude and nastily nauseating."

We passed the information on the alert Guilford County Society, with what result may be seen from the following extract from a letter from that society's energetic and resourceful secretary, Dr. A. D. Ownbey, to Dr. R. B. McKnight, secretary of the Mecklenburg Society:

"Your letter concerning 'Dr. Taylor' was received the day of our meeting last month and I brought the matter before the society that night. The society voted to turn over to the newspapers all the information that you sent. Both the Greensboro and High Point papers carried articles about this 'Dr. Taylor.'

The manager of the King Cotton Hotel, after reading the article in the paper, called me over the phone and told me that this man had called him from Charlotte and rented the ballroom of the King Cotton Hotel for a period of two weeks at a price of twenty-five dollars per day. 'Dr. Taylor' and his assistant arrived the following Saturday, stayed until Monday and checked out. I understand that he has been operating in Richmond now for some three or four weeks.

On behalf of the Guilford County Medical Society and the citizens of Guilford County I wish to extend to you and Dr. Northington and the Mecklenburg County Medical Society our sincere thanks for making it possible for us to keep this quack out of our community. We are grateful and will return the favor whenever the opportunity presents itself."

We had written a number of N. C. county societies, but it did not occur to us at the time to send information outside the State. This journal would be glad to see all the county societies of this and adjoining States manifest the spirit of Guilford and act in accordance with the concluding sentence of Dr. Ownbey's letter. It would be well, too, to exert ourselves to induce newspapers near us to adopt the principles of those of Guilford as shown by the following:

Dr. H. B. Hiatt, president of the Guilford County Society, took occasion to praise the press of Guilford County for its whole-hearted support in such matters in the past and expressed on behalf of the doctors appreciation for the service rendered to public health improvement in that manner.

THE DAVIS HOSPITAL PEDIATRIC CLINIC

This journal is ever eager to praise and encourage enterprises which tend to provide at home what has been, heretofore, obtainable only outside the State; or, at least, what our own folks have been accustomed to going outside the State for.

A clinic in Diseases of Children has been arranged at the Davis Hospital, Statesville, for July 13th to 18th, under the direction of Dr. G. W. Kutscher, jr., who, while taking an extended special course at Tulane, was also a member of the Faculty, as Clinical Assistant in Pediatrics. Dr. Kutscher has

recently returned to Asheville for the practice of his specialty.

For obvious and proper reasons it was required that all children for this clinic be sent either by a doctor or by a city nurse or welfare officer.

We are sorry that the clinic did not happen to be timed a little later, so that the July issue of this journal would be in the hands of its readers several days before the opening.

We believe in States' Rights. Rights carry with them privileges and duties. It is our plain duty to get at home everything the home market affords. The Negroes of the South have been emancipated; but not the whites. So long as the system lasts which is shown by more money going from North Carolina to Detroit for automobiles than North Carolina's cotton crop fetches, just so long will our bondage last.

Over the years when facilities were not afforded at home for post-graduate instruction we sought it elsewhere, and our brethren on the other side of the line supplied it with skill and consideration.

Since we have come along to the place where we can get the requisite help at home, let's support and encourage ourselves and our own.

NEW DEPARTMENT EDITORS

As much as we have always insisted that the family doctor is the main man in medicine it seems incredible that the idea never occurred to us of having a Department of General Practice till less than 30 days ago. I' faith, it was *Hamlet* with Hamlet left out.

But the defect is supplied, and in handsome fashion. Dr. Wingate Johnson is a family doctor and he believes in family doctors, because he is the kind of man who knows himself and still believes in himself.

About two months ago Dr. Johnson addressed the New York County Medical Society. The *New York Times* and many others of the Nation's foremost newspapers that have been accustomed to editorialize only about "famous specialists" among doctors, gave our lad a hearty hand. The *Richmond Times-Dispatch* says in this connection:

"Of late years the family doctor, general practi-

tioner and medical man of all work has lost caste in his profession and somewhat in public opinion. The family doctor enjoys a tradition which is based on real service to his patients, and this service has in the past consisted of ministering to the whole man, whether in the minor physical ailment sense or in the larger non-medical human problems.

The general practitioner knows that the majority of human ills can be met without reference to the medical specialist.

We agree heartily with Dr. Johnson in his praise of the family doctor. There is no substitute for him. He is the one who can tell the medically ignorant layman where to seek highly specialized treatment; he is the one who can survey the individual sufferer from a better point of view than that of impersonal medical science. The layman never fears the family doctor because, as Dr. Johnson says, he is an 'honorary member of the family.'

Therefore, instead of treating the general practitioner as a vanishing type, we prefer to see him as some one secure in the medical profession as long as friendship, trust and confidence go out to him to minister simply, gently and patiently to our bodily woes."

A worthy companion as a Public Health Officer, of Dr. Johnson as a Family Doctor is Dr. Geo. M. Cooper, who has made such a record in the conduct of a Bureau of the Health Department of North Carolina, and in the discharge of all the duties of its Health Officer, as to elicit unmeasured praise from the Board and all others conversant with the quality of his work.

Dr. Cooper has shown marked ability, also, in the conduct of the editorship of the State Health Bulletin, both as to deciding what to write about and in the manner of setting it forth. Many will recall that he supplied the leading feature in our Wood Memorial issue.

We are proud of these additions to our staff. Both are cherished personal friends and friends of the journal. Each will prove a power of strength in the cause of better medicine for the people of the Carolinas—for the people everywhere.

The third new member of the journal's official family, we have not been privileged to know so well. However, the acquaintance has gone far enough to assure that the conduct of the Department of Hospitals, by Dr. Mercer C. Parrott, will be of the vigorous, effective, wise and high-toned kind which is to be expected from one of this family of medical gentlemen.

LINCOLN'S PROFESSIONAL MEN'S CLUB

More than six months ago it was the good fortune of the editor to be a guest of a joint meeting of the dentists, pharmacists, lawyers, newspaper men and physicians of Lincoln County. At that meeting the idea occurred to some one that it would be well to organize a Professional Club which would hold regular meetings four times a year. We expressed the conviction that it would be wise to do this.

A month ago we were invited to participate in the third such meeting. At this meeting the Committee on Constitution and By-Laws reported, and, after discussion it was decided to invite the ministers, the superintendents of public instruction and resident school-teachers of the county to come in.

All this strikes us as a grand conception.

That much of strife comes of lack of understanding of the other person is proved *prima facie* by the fact that unpleasantness and working at cross purposes so commonly follow on misunderstanding that the word *misunderstanding* has come to have this meaning.

That the educated men of the Country do not exercise the influence they should is obvious. That much of this is owing to indifference, or even working at cross purposes between the professions is undeniable.

With all their ills, the Middle Ages had one admirable feature—education was respected: it was not lawful to execute a man who could read; he could plead "benefit of clergy."

The present situation is well portrayed by a recital of a recent personal experience. A prominent specialist sent in a series of case reports, which series embraced the case of a laborer, a retired farmer, a physician, a mill president and a minister. Each occupation was spelled with small (lower case) letters with the exception of the Mill President. The physician, and even the minister of the Gospel, were entitled to no special consideration; but the mill president ranked C-A-P-I-T-A-L-S. That this was done unintentionally but makes it the more revealing.

This journal would be glad to see Professional Men's Clubs all over the State, all over the Country, even all over the World.

Turn over in your minds the possibilities

of such a movement carried to successful completion.

We're going to initiate the movement here in Charlotte, and we hope others will take fire from Lincoln County's altar and start an illumination of their own.

AN ADVERTISEMENT IN THE BRITISH
JOURNAL OF OPHTHALMOLOGY
JUNE, 1931

CLIFFORD BROWN LD.
Dispensing Opticians,
45 Wigmore St.,
London, W1.

PRICES—A Statement of Policy

The cost of the glasses is nowadays a matter of moment to many patients.

There are few articles which the public purchases and knows less about than spectacles, and this fact gives a decided and unfair advantage to an optician who is also a salesman.

The policy of Clifford Brown is to make spectacles which primarily will exactly interpret the prescription, and yet meet the patients' wishes in the matter of cost.

There exists a demand for beautifully fashioned and necessarily expensive, hand made frames of gold and tortoiseshell, which Clifford Brown are happy to be able to meet, but not unfairly to stimulate.

Surgeons may feel assured that their patients are subjected to no undue influence in the choice of their glasses.

THREE TRI-STATE DOCTORS HONORED

At the recent meeting of the Association of Surgeons of the Southern Railway at Washington, Dr. S. O. Black, Spartanburg, S. C., was chosen president; Dr. J. T. Burrus, High Point, N. C., 1st vice-president; and Dr. E. A. Sumner, High Point, was awarded a prize because of the excellence of a paper presented.

Each of the three is a member of the Tri-State Medical Association of the Carolinas and Virginia.

The next meeting will be held at Savannah.

IN PLANNING VACATIONS, be sure that the house to which you are going is clean and well screened and that the milk and water sup-

plies are safe. If traveling to a place where typhoid may be, [and it may be anywhere] have the children inoculated. Do not let the children drink water from roadside springs, or other sources not known to be safe. For short excursions, carry safe water with you. Boil all drinking water not *known* to be safe.

See that the child drinks three or four glasses of cooled unflavored water daily. Fresh-fruit orangeade and lemonade and tomato juice are useful also, but tea, coffee, and some bottled drinks contain a stimulant which children should not have. Use no raw milk. If pasteurized milk is unobtainable, boil the raw milk. For children under two years all milk must be boiled. Keep cool and well covered. Do not buy food for children from street carts or from counters where it has been exposed to dirt and dust and flies. Give the child plenty of fresh, green, leafy vegetables, and ripe, fresh fruits. Be sure that those to be eaten raw are washed in water known to be safe. Children over 18 months may have meat or fish and a fresh egg daily.

Children under six need a midday rest with at least one or two hours sleep. Let the child get well tanned gradually but not sunburned. Sun suits and sandals are all he needs for a large part of the day. In cooler summer weather he will need cotton underwear, a cotton suit or dress, short socks, shoes, and a sweater when he is not in the sun. Clothing that is too warm makes a child perspire too much and take cold easily.

—News letter of the Health Committee of the State Medical Society of Wisconsin.

Burgdorfer states (*Die Medizinische Welt*, April 18th, 1931) that the population of Germany was growing rapidly before the war. At the present time the birth rate in Germany and Austria is the lowest in all Europe. Placing the reproduction rate of Germany at 100 and that of Austria at 96, that of Great Britain is 101, of France 112, of the Irish Free State 143, and of the Ukraine 219. We are surprised to see also that that of Hungary is 132.

The homicide death-rate in Canada stands at approximately one-sixth that in the United States. Possibly one explanation for Canada's low homicide death-rate is the more

prompt and more certain disposition in that country of the cases of those who give way to the homicidal impulse. -*Bul. Met. Life Ins. Co.*

In Canada if you kill you will be killed, and promptly; and that's the difference.

"I can't afford to be governor, if I had the chance. And I wouldn't take the nomination if it were given me," (quoting a Raleigh Bureau despatch to the Greensboro *News*) is the way Dr. J. T. BURRUS put an end to any rumor that he has aspirations for the North Carolina chief executive's place.

Drs. J. van de Erve and J. M. van de Erve, jr., Charleston, have devised a portable apparatus for investigating the reaction of degeneration. It is described in the July issue of *The Journal of Nervous and Mental Disease*.

FORTY YEARS AS A CLINICAL PATHOLOGIST

(Warthin, A. S., Ann Arbor, Mich., in *The Jour. Lab. & Clin. Med.*, May, 1931)

The first foundation stone of my department consisted in getting the Board of Regents to pass a rule requiring that all surgical material removed in the University Hospitals become the property of Pathological Laboratory, and must be sent there, accompanied by a history of the case for diagnosis. This included all tissue, tonsils, placentas, herniotomy tissue and everything else removed at operation. The results show the great wisdom of such a procedure. Not only has much material regarded as wholly negative by the clinician been shown to have decided pathologic value of great importance to both patient and clinician, but through the years there has grown up a collection of pathologic material that probably has no equal in any other diagnostic laboratory in the world.

In our laboratory the clinical diagnosis of adenomatous prostate has always been offset with the pathologic diagnosis of cystic glandular hyperplasia due to chronic duct-infection. In my forty years of pathologic work I have never but once seen a true adenoma of the prostate.

The writer has never been very sympathetic with the rapid-fire frozen-section method of diagnosis so much lauded by certain surgeons. Its universal application in a clinic is only that of a fad or pose. The number of cases requiring the diagnosis while the patient is on the operating table is very small. For these the frozen-section method serves a useful purpose. Further, the staining technic employed in most of our laboratories using the frozen-section method is, to my mind, absolutely inexcusable and positively criminal. Hundreds of sections so prepared, are referred to me yearly for diagnosis from

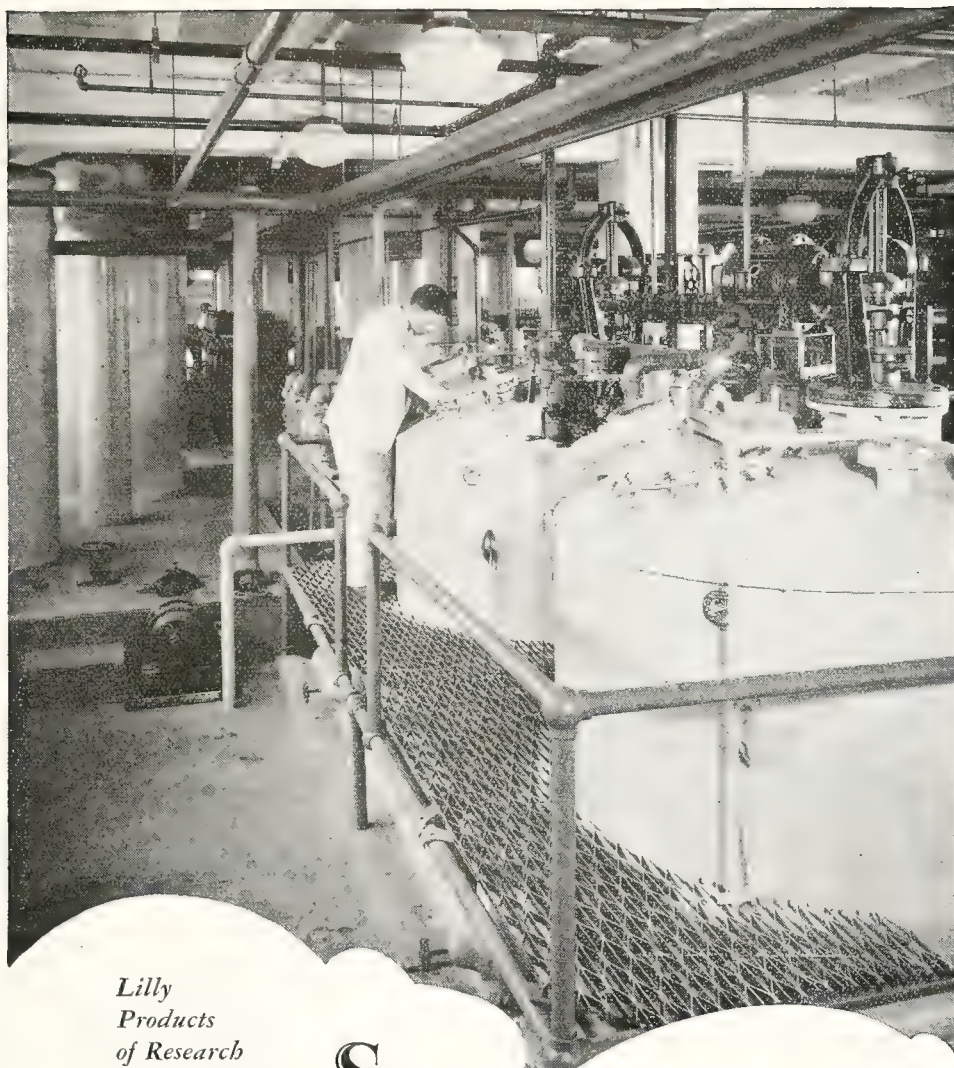
all over the country. How often has it been necessary for me to return the slide with the statement, "No diagnosis possible because of poor technic!" It makes one shudder to think of the kind of diagnosis from impossible slides going on all over the country.

No training is more difficult and far-reaching than that of a competent diagnostic pathologist. From one diagnostic clinic there were sent to me during two years, five slides of five different cases of curettings from young women, on each of which a diagnosis of adenocarcinoma had been made. Because of the youth of their patients the clinicians had objected to the diagnosis of carcinoma. In each case the slides showed only a decidua endometrium; abortion rather than carcinoma was the proper diagnosis.

The most unsatisfactory side of the work of a diagnostic laboratory is still today our inability to get a properly filled-out history sheet sent to the laboratory with the specimen. History-taking is still one of the branches of instruction in the hospitals of this country most neglected and most poorly taught.

In one case of neoplasm of the tibia, material was distributed to four pathologists; one made a diagnosis of fibroma, another of chondroma, the third of osteoma; while the fourth, who happened to be myself, received a piece showing atypical cellular areas justifying the diagnosis of osteogenic sarcoma, which diagnosis was later proved to be correct. Many carcinomas, particularly those of the thyroid and lungs, present the most varying of anaplasia in different portions so that sections from these different areas would be regarded as entirely distinct and different neoplasms, were the origin of the material not known. The most common form of carcinoma of the breast is always scirrhous in its older portions, and medullary in the most recent. Therefore, the broad view is necessary in the making up of any pronouncement as to the degree of malignancy of any given neoplasm. Numerous blocks should be examined, and the general relations weighed, rather than any consideration of the character of cells taken at chance from any portion of the neoplasm. Further, it may be urged that the degree of anaplasia is in itself no positive guide for the degree of malignancy. Every diagnostic pathologist has seen neoplasms showing but little, or no, apparent departure from the normal type of cells, but still infiltrating and metastasizing after the manner of the most malignant types. Many of the present-day laboratory attempted gradings of neoplasms are based upon false principles, and are dangerous.

The family history is an important factor in determining the prognosis. In my experience we have found a marked tendency for malignancy to occur earlier and to be more marked in degree in individuals from families showing a multiple incidence of malignancy in different generations than in individuals with family histories free from such multiple incidence.



*Lilly
Products
of Research*

STILLS AND CONDENSERS used in the production of Insulin, seen from the second floor level—a view in the laboratories of Eli Lilly and Company, Indianapolis, in which are made

ILETIN (INSULIN, LILLY)

The first Insulin commercially available in the United States

LIVER EXTRACT No. 343

EPHEDRINE PREPARATIONS

AMYTAL

SODIUM AMYTAL

PARA-THOR-MONE

and an extensive line of Pharmaceutical and Biological Products

For Use Under the Direction of Physicians

NEWS

Dr. J. K. Hall, Richmond, and Dr. L. B. McBrayer, Southern Pines, are regular contributors to this column

Our Medical Schools

WAKE FOREST

PERSONAL

Dr. George Mackie, professor of Physiology and Pharmacology, is spending this summer in Philadelphia doing special work in neurology.

Dr. C. C. Carpenter, professor of Pathology and Physical Diagnosis, and Dr. H. M. Vann, professor of Anatomy, are giving courses here in sanitation and hygiene to summer school students.

President Thurman D. Kitchin appears none the worse physically after his first year as president of Wake Forest. During the past session he served also as dean of the Medical School. At present his major interest is the construction of a new gymnasium and student activities building.

GENERAL

President Kitchin wore his broadest smile this morning upon learning that two of his men had tied for first place on the state medical examination and that another had tied with a University of North Carolina graduate for second place.

"The fact that the Wake Forest College School of Medicine, although one of the smallest in the world, can thus compete creditably with larger institutions," Dr. Kitchin stated, "is evidence that our goal, to keep Wake Forest a good little college is attainable."

His three men who distinguished themselves on the examination showed unusual promise before leaving Wake Forest. Cloyce R. Few, of Raleigh, who tied for first place with Arthur B. Peacock, also of Raleigh, was a Golden Bough man at Wake Forest, president of the student body, and bass in the college quartet. This spring he was graduated from Johns Hopkins Medical School and he now has an interne appointment for next year at the Hopkins hospital.

Dr. Peacock, son of President and Mrs. J. L. Peacock, of Shaw University, was also a Golden Bough graduate of Wake Forest. During his senior year he was interne in the Wake

Forest hospital. He was graduated the past session from Jefferson Medical School and next year will be interne at the Pennsylvania hospital.

M. Crocker Maddry, of Seaboard, whose mark of 94 3-7 trailed the others only 4-7 of one point, was graduated this spring from Jefferson. He will be interne next year at the New York Post Graduate Hospital.

President Kitchin has just received a letter from the president of the State Board of Medical Examiners stating that of the five highest marks on the recent examination four were made by his men.

—T. J. Memory, jr.

SOUTH CAROLINA

Commencement exercises of the 103rd annual session of the College took place on June 4th. The degree of Doctor of Medicine was conferred upon 41 graduates in the School of Medicine; that of Graduate in Pharmacy upon 10 and of Pharmaceutical Chemist upon 2 in the School of Pharmacy; the title of Graduate Nurse was conferred upon 24 in the School of Nursing, and 12 affiliate nurses from other schools were given certificates for special training here. Dr. J. Wilkinson Jersey of Greenville made the commencement address.

The honorary degree of Doctor of Laws was conferred upon Dr. Kenneth M. Lynch, Professor of Pathology, by the University of South Carolina, and upon Dr. William Weston, Director of the Food Research Laboratory, by the University of the South, at the recent commencement exercises of these universities.

Dr. Robert L. McCrady has been promoted to the rank of Assistant Professor of Gynecology and Obstetrics.

Dr. Hyllier Rudasill, formerly instructor in the department of roentgenology at the University of Chicago, is now occupying the full-time position of Roentgenologist to the Roper Hospital and head of the Department of Roentgenology of the College. The department has been completely reorganized,

The drought and pellagra

If history repeats itself, poverty and privation, due to the drought, will leave pellagra in their wake this spring—as after the Mississippi flood. Authorities agree that a preparation of yeast rich in vitamine-G (B_2) serves as the best preventive of, and treatment for pellagra. To relieve pellagra during the flood of 1927, Dr. Joseph Goldberger, the U. S. Public Health Service and the American Red Cross employed large quantities of Brewers' Yeast-Harris and Yeast Vitamine-Harris in the Southern States.

Their favorable reports thoroughly justified the use of these products. Brewers' Yeast-Harris and Yeast Vitamine-Harris differ from other preparations of yeast in that biological assay of the output proves them to be uniformly very rich in the pellagra-preventive principle, vitamine-G (B_2), and also in vitamine- B_1 .

As a dietary adjunct, Yeast Bouillon Cubes Harris also furnish a dependable source of vitamine-B complex, containing both factors F and G in the form of a delicious broth.

To treat pellagra, prescribe 2 level teaspoonfuls of Brewers' Yeast-Harris two to six times daily.

YEAST VITAMINE-HARRIS

A Concentrate of
BREWERS' YEAST-HARRIS

Samples on request

THE HARRIS LABORATORIES



TUCKAHOE, NEW YORK

with entire new equipment, in the hospital.

During the summer vacation the Department of Pathology and the Library will be moved into the new building, completed for this purpose during the first part of the year, the Department of Pathology occupying the second floor and the Library the first. Space released by the removal of these departments will allow needed expansion of other departments located in the main building.

UNIVERSITY OF VIRGINIA

On May 19th Dr. Edwin P. Lehman spoke on The Diagnosis of Carcinoma of the Large Bowel before the Clinical Meeting of the physicians of the Fourth Councilor District, Medical Society of Virginia, held at Petersburg in conjunction with the Post-Graduate Medical Society of Southern Virginia and the Department of Clinical Education, Medical Society of Virginia.

Dr. D. C. Smith read a paper on Jugular Compression, an Adjunct in the Treatment of Syphilis of the Central Nervous System, before the American Dermatological Society which met at Toronto, Canada, from June 15th to 17th.

The following members of the Medical faculty attended the meetings of the American Medical Association in Philadelphia from June 9th to 12th: Drs. Neff, Royster, Wilson, Morton, Maxcy, Swineford, Woodward and Smith.

Dr. J. H. Neff attended the meetings of the American Association of Genito-Urinary Surgery at Buck Hill Falls Inn, Pennsylvania, on June 4th. He presented a paper on Massive Hemorrhagic Cyst in a Wilms' Tumor of the Kidney in an Adult.

At the final exercises on June 16th, 47 students were graduated with the degree of Doctor of Medicine.

Dr. Herbert Silvette, research assistant in physiology at the University of Virginia School of Medicine, has for the second time been awarded the Porter Fellowship of the American Physiological Association, carrying with it an emolument of \$1,800.

The fellowship is given for physiological research, and is awarded in open competition with graduate medical workers all over the United States. It has been established nine years, and in that time has come here twice, both times to Dr. Silvette. The Porter award

is given on the basis of experimental work in physiology. Dr. Silvette, working with Dr. S. W. Britton, has been instrumental in accomplishing important phases of adrenal research at the university.

Dr. Allen Fiske Voshell, Associate Professor of Orthopedic Surgery, has accepted the Professorship of Orthopedics in the Medical School of the University of Maryland. He will assume his new duties at the beginning of next session. His successor at the University of Virginia has not yet been appointed.

Dr. Vincent Archer read a paper on Roentgen Diagnosis of Neoplastic Disease before the Post-Graduate Medical Society of Southern Virginia at Petersburg on May 19th.

At the meeting of the Gastro-Enterological Section of the American Medical Association in Philadelphia on June 10th, Drs. Vincent Archer and C. B. Morton presented a paper on Ascariasis: Clinical and Roentgenological Considerations.

UNIVERSITY OF NORTH CAROLINA

Dr. Robert B. Nye, Kings Mountain, U. N. C. Med. '25, Jeff. '27, chief resident physician at Jefferson Hospital for the last two years, has been appointed director of the new Curtis Clinic at Jefferson Medical College Hospital—a million and a half, 12-story structure.

Mr. A. S. Rose, of the class of 1930, now a Senior of the Harvard Medical School, has been appointed Teaching Fellow in Anatomy.

Medical students completing the first two years at the University will continue the course as follows:

University of Pennsylvania	6
University of Maryland	6
Emory University	3
Harvard	2
McGill	2
Jefferson	2
Vanderbilt	2
Duke	2
Hopkins	1
Rush	1
Temple	1
Michigan	1

At the recent commencement of the University of North Carolina, the honorary degree of LL.D. was conferred on Dr. Michael Hoke, the well-known orthopedist of Atlanta. Dr. Hoke is a native of Raleigh, and an alumnus of the University.

DUKE

The spring quarter ended June 13th and the summer quarter commences June 22nd. For the summer quarter, 29 students have registered in the second-year class, six in the junior and three in the senior class. Two of the second-year students will take work during the summer quarter at the University of Cambridge, Cambridge, England, and the Royal College of Surgeons, Edinburgh, Scotland. Four of the senior students will spend the summer quarter at Rotunda Hospital, Dublin, Ireland, and the National Hospital, Queen Square, London, England.

On June 16th 16 students of the first class in the School of Nursing, who had creditably finished their six months' preliminary course, received their caps at the morning exercises in the Chapel. Following the capping program, they were photographed outside the entrance of the hospital.

On May 25th Cabell Ward (surgery) was opened for patients, which increased the number of beds available for patients to 254.

MEDICAL COLLEGE OF VIRGINIA

The addition of 15 instructors to the faculty and several promotions of former members of the faculty have been announced.

The complete list follows:

Dr. C. H. Beach, instructor in first aid; Dr. A. H. Bell, assistant in surgery; Dr. Meade S. Brent, instructor in nervous and mental diseases; Dr. A. N. Chaffin, assistant in surgery; Dr. W. A. Farmer, assistant in surgery; Dr. John R. Gill, instructor in nervous and mental diseases; Dr. J. B. Graham, instructor in surgery; Dr. H. C. Henry, associate in nervous and mental diseases; Dr. R. C. Hoge, instructor in surgery.

Dr. Theodore Kohn, assistant in medicine; Miss Alis Loehr, assistant in biochemistry; Dr. R. Angus Nichols, jr., instructor in surgery; Dr. H. M. Richardson, instructor in gynecology; Dr. E. H. Williams, assistant in pediatrics, and Dr. J. N. Williams, instructor in nervous and mental diseases.

The following promotions of faculty members are also noted:

Dr. W. P. Barnes, from instructor to associate in surgery; Dr. W. B. Blanton, from assistant professor to associate professor of medicine; Dr. R. H. Courtney, from associate

Montague Hospital

Exclusively for

RECTAL
and
COLONIC
AILMENTS

*Offering special
facilities for the
diagnosis and
treatment of rec-
tal and colonic
diseases.*

36th St. East of
Lexington Ave.

NEW YORK
CITY



in to assistant professor of ophthalmology; Dr. D. S. Daniel, from instructor to associate in surgery; Dr. B. H. Gray, from associate professor of obstetrics to professor of clinical obstetrics; Dr. Webb B. Gurley, from associate in to assistant professor of operative dentistry.

Dr. I. T. Hardy, from assistant in operative dentistry to instructor in exodontia and operative dentistry; Dr. W. H. Higgins, from associate professor of medicine to professor of clinical medicine; Dr. John S. Horsley, jr., from associate in to assistant professor of surgery; Dr. J. G. Lysterly, from associate in to assistant professor of neurological surgery; Dr. Harry Lyons, to professor of periodontia; Dr. W. A. Ratcliffe, from assistant in to instructor in operative dentistry.

Dr. A. C. Sinton, from associate in to assistant professor of gynecology; Dr. J. H. Smith, from associate professor of medicine to professor of clinical medicine; Dr. G. H. Vaughan, from instructor to associate in otolaryngology; Dr. W. R. Southward, from assistant to instructor in surgery; Dr. M. G. Swenson, from associate professor to profes-

sor of prosthetic dentistry; Dr. R. W. Vaughan, from instructor to associate in otolaryngology; Dr. E. U. Wallerstein, from associate in to assistant professor of otolaryngology; Dr. H. Hudnall Ware, jr., from associate in to assistant professor of obstetrics; Dr. B. W. Wilkinson, from assistant to instructor in surgery; and Dr. R. A. Williams, from assistant to instructor in prosthetic dentistry.

A bronze tablet, attached to the old home of DR. WILLIAM BROWN, 121 South Fairfax street, Alexandria, Virginia, was unveiled with appropriate exercises on Sunday, June 14th, 1931. Dr. J. Allison Hodges, of Richmond, president of the Medical Society of Virginia, was one of those who participated in the exercises.

Dr. William Brown was a native of Scotland and a graduate in medicine of the University of Edinburgh. He spent his professional life, however, in Alexandria, Virginia. He was one of the chief medical officers of the Revolutionary Army, and while in the service he compiled and published, largely for the use of his fellow medical officers, the first pharmacopeia formulated in this country—a pamphlet of 30-odd pages, all done in Latin. Dr. Brown was one of the family physicians of George Washington, but he died at the early age of 40, a few years before General Washington. His body lies buried in the grave-yard of old Pohick church, near Mount Vernon, on United States Highway No. 1.

BARD RESIDENCE HALL, the \$2,500,000 building, given by Edward S. Harness to the Medical Center and named for Dr. Samuel Bard, physician to George Washington and first Professor of Medicine in King's College, the predecessor of Columbia University, will be ready Oct. 1st.

THE ROARING GAP CHILDREN'S HOSPITAL, Roaring Gap, North Carolina, opened June 15th for the 1931 season, under direction of Dr. Leroy J. Butler, Winston-Salem, N. C., Dr. B. E. Pulliam, resident physician, Miss Mary Murphy, R.N., Supt.

Those interested in Radiology formed the NORTH CAROLINA RADIOLOGICAL SOCIETY

during the recent meeting of the Medical Society of the State of North Carolina at Durham. Officers are Dr. J. K. Pepper, President, Winston-Salem; Dr. W. G. Rainey, Vice-President, Fayetteville; Dr. M. I. Fleming, Rocky Mount, Secretary-Treasurer.

The last General Assembly provided a COMMISSION FOR THE IMPROVEMENT OF THE LAWS OF NORTH CAROLINA, among others announced on this commission June 15th were Dr. Thurman D. Kitchin, President, Wake Forest College and Dean of the School of Medicine at Wake Forest College.

At the first meeting of the new STATE BOARD OF HEALTH OF NORTH CAROLINA Dr. J. T. Burrus, High Point, was elected President; Dr. Carl V. Reynolds, Asheville, Vice-President, and Dr. J. M. Parrott, Secretary of the Board and State Health Officer. Dr. Parrott accepted the office, making a vacancy on the Board which was filled by the election of Dr. Grady G. Dixon of Ayden.

DR. ROBERT L. KING of Pearisburg, Va., and until recently resident physician at the University of Virginia Hospital, is now a member of the staff of the Mason Clinic at Seattle, Wash.

Dr. King did his undergraduate work at Washington and Lee and took his medical course at the University of Virginia, being graduated in 1928. He was granted a bachelor of science degree in medicine with the class of 1931.

Since graduation from the medical school Dr. King has served internships at the University Hospital and at Blue Ridge Sanatorium, and during the past two years has been resident physician on the medical service at the university. He is a Sigma Phi Epsilon, Nu Sigma Nu and a Raven.

SURGEON-GENERAL HUGH S. CUMMING was the guest of Dr. Stuart McGuire in the McGuire summer home in Chesterfield County the last week-end in June.

Dr. Cumming, a life-long friend of Dr. and Mrs. Ennion Williams, called at the Williams home, 4015 Hermitage Road.

At the meeting of the State Medical Society in Durham, DR. CLAIBORNE T. SMITH

and DR. WILLIAM BERNARD KINLAW, Rocky Mount, were presented with the Moore County Medical Society medal for having the best paper at the 1930 meeting.

DR. CLYDE F. ROSS, Richmond, grand praetor of the fifth province of Sigma Chi, recently attended the 40th meeting of the grand chapter of the fraternity. This province includes Virginia and North and South Carolina.

Besides Dr. Ross, DR. O. B. DARDEN, Richmond, Duke alumnus, and representatives of the University of Virginia, Washington and Lee and Roanoke College Sigma Chi chapters were of the party.

DR. HORACE H. JENKS, 53, widely known specialist on diseases of children and director of the Associated Medical Clinic of Philadelphia, died July 5th following a brief illness from pneumonia.

A native of Philadelphia, Dr. Jenks was graduated from Haverford College and the School of Medicine, University of Pennsylvania. He was assistant professor of pediatrics at the Graduate School of Medicine, University of Pennsylvania.

DR. C. H. HEMPHILL, formerly of Marion, has located in Valdese, N. C., with offices in the Guigon building. Fifteen years ago he practiced for one year in Drexel. Since that time he has been practicing in Chapel Hill. He is a graduate of the University of North Carolina and the University of Maryland, Baltimore. He received his degree in medicine from the University of Maryland in 1913.

DR. MARY BAUGHMAN, president of the Richmond Business and Professional Woman's Club, was chairman of the Cotton Ball given at Richmond July 10th in conjunction with the Old Dominion convention of National Business and Professional Women's Clubs, which convened at Richmond the week of July 6th.

DR. FRANCIS JONATHAN CLEMENGER died of heart disease at his summer home in Asheville. Dr. Clemenger, who maintained residence in New York, was a lieutenant-colonel in the United States Army, and had many friends in North Carolina, having married

ELECTRICAL HEALTH HELPS

The attention of physicians and patients alike is invited to those electrical appliances which can be used to such splendid advantage for the comfort and health of persons who are not enjoying perfect health.

The electric heating pad, for instance, constant at any desired temperature, is a God-send to thousands who need applications of heat for the relief of pain. Small water heaters and other small appliances are found to be of great convenience and value in sick rooms.

The G. E. Sun Lamp, the Master Healthizer or the Graybar Stimulator, and other appliances may be used in many cases with much benefit.

You are invited to inspect these and other appliances at any of our stores.

**SOUTHERN PUBLIC UTILITIES
COMPANY**

**NORTH CAROLINA PUBLIC
SERVICE COMPANY**
Charlotte, N. C.

Miss Daisy Marie Sawyer in Asheville in 1900. Burial was in Arlington with full military honors.

DR. WILLIAM B. NORMENT has recently arrived in Greensboro for residence. In the practice of surgery he will be associated with Dr. Russell O. Lyday. Dr. Norment, a North Carolinian, is a graduate of Jefferson, received his master's degree in surgery from the Medical School of the University of Minnesota.

DR. A. L. HYATT of Kinston was recently sentenced to a year and a day in the Atlanta penitentiary for violation of the Narcotic Law with special reference to keeping records required. His many friends are making an effort to get clemency for the physician.

DR. AND MRS. THOMAS W. MURRELL, Richmond, with Miss Gertrude Murrell and Thomas Murrell, jr., sailed July 2nd, on the "De Grasse" for Europe and will spend a month in England, later spending a month on

the continent. They will return to Richmond in September.

DR. J. A. DUGUID of New Bern is sentenced to 18 months in the Atlanta penitentiary for technical violation of the Harrison Narcotic Act. A petition signed by 1,500 persons was presented to the Judge asking for clemency. The Judge has not acted on these requests as yet.

DR. E. A. HINES, JR., has been granted a fellowship in medicine by the Mayo Foundation. Dr. Hines is now resident physician to the Spartanburg General Hospital and assistant secretary-editor of the *Journal of the South Carolina Medical Association*.

DR. W. J. B. ORR, long a resident of this State and of Smithfield and the founder and builder of the Johnston County Hospital and surgeon of same, has moved to Washington, D. C., where he will continue his profession as surgeon.

DR. HOBART AMORY HARE, who has taught more medical students than any other doctor in the U. S., died at his home at Philadelphia some three weeks ago. Request has been made of a friend and former student that he supply a tribute.

DR. JOHN OSBORN POLAK, of Brooklyn, 61, distinguished obstetrician, died of heart failure June 30th. One of his students has been requested to write a note.

DR. L. NAPOLEON BOSTON, 59, member of the staffs of two Philadelphia hospitals, died July 4th, after several weeks' illness from erysipelas.

Dr. Boston's death terminated a connection of 30 years with Philadelphia hospitals. At the time of his death he was professor of medicine of the Woman's Medical College of Pennsylvania and professor of physical diagnosis of the Graduate School, University of Pennsylvania.

DR. C. C. CARPENTER, Professor of Pathology at Wake Forest College, was guest speaker at the meeting of the WAYNE COUNTY (N. C.) MEDICAL SOCIETY at Goldsboro recently.

The case of DR. MIKE ROBINSON of Durham, who has been sentenced for producing an abortion, has been appealed to the Supreme Court for new trial. He was sentenced to a year and a day in the Atlanta penitentiary.

DR. MYER E. JAFFA, 73, authority on nutrition, and professor emeritus on that subject at the University of California, died the last of June. He was born in Australia, came to California when 9 years of age and has been connected with the university since 1897.

DRS. P. H. RINGER, Asheville, P. P. McCAIN, Sanatorium, and J. B. SIDBURY, Wilmington, have been engaged to assist in holding Clinics at the South Carolina Sanatorium at State Park on July 29th and 30th.

DR. J. N. BRITT, Lumberton, was operated on for appendicitis two weeks ago in a Charlotte hospital. He is now convalescing rapidly at his home.

DR. W. B. DEWAR of Raleigh gave an address recently at the regular monthly meeting of the Wayne Medical Society in Goldsboro.

DR. J. M. TEMPLETON, 76, Cary, N. C., traveled by airplane to the meeting of the American Medical Association at Philadelphia.

DR. HUBERT A. ROYSTER, Raleigh, at the recent meeting of the American Medical Association in Philadelphia, was elected chairman of the Section on Surgery.

DR. C. S. GRAYSON of High Point was recently elected Mayor of the city, he receiving the largest number of votes cast for any candidate for any office filled at this election.

DR. L. D. WHARTON, 64, Tulane, '93, died of a sudden heart attack at his home in Smithfield, June 15th.

DR. THOS. D. SPARROW, Charlotte, announces the removal of his offices to Suite 516, Professional Building.

DR. T. A. KIRKMAN, 71, died at his home in Siler City May 24th after a lengthy illness.

At a meeting of the EIGHTH (N. C.) DISTRICT MEDICAL SOCIETY in Winston-Salem, Dr. Alfred Stengel, of the University of Pennsylvania, was the guest speaker. Dr. S. G. Jett of Reidsville was elected President; Dr. Carl V. Tyner of Leaksville, Vice-President, and Dr. T. C. Redfern of Winston-Salem Secretary-Treasurer.

At the recent meeting of the SECOND (N. C.) DISTRICT MEDICAL SOCIETY at New Bern the following officers were elected: Dr. DeWitt Kluttz of Washington, President; Dr. Joshua Tayloe of Washington, Secretary.

THE MECKLENBURG COUNTY SOCIETY'S meeting, June 16th, was addressed by Dr. W. deB. MacNider, Kenan Professor of Pharmacology at the University of North Carolina. Dr. MacNider talked most entertainingly and instructively on Regeneration in the Kidney Associated with Resistance to Injury.

Dr. Addison Brenizer entertained at dinner in honor of Dr. MacNider and following the meeting had the local doctors and a number from other counties out to share the companionship of a guest we always delight to honor.

At the meeting of the MECKLENBURG COUNTY MEDICAL SOCIETY, July 7th, the leading portion of the program was given over to In Memoriam exercises for Dr. John R. Irwin, one of the society's oldest and most honored members. The exercises were led by Dr. R. L. Gibbon and Dr. G. W. Pressley.

Then followed case reports illustrating the use of Skiodan and Uroselectan in Urology, by Dr. Hamilton W. McKay; and an essay, The Effect of Posture in Effort Syndrome, by Dr. William Allan.

MARRIED

Dr. Warren Stone Bickham, New York surgeon, who has been making his home at Richmond for the last three years, and Miss Alice Martin of Brooklyn, June 30th.

Mrs. Ruth Threadcraft Putney of Middlesex, Va., and Dr. Claude C. Coleman of Richmond, June 16th.

Miss Aileen Ross, daughter of Mr. and Mrs. Arthur A. Ross, of Nashville, N. C., to Dr. Herbert Gorham of Durham.

Dr. French Davis Bolton, jr., and Miss

Jean Peters, both of West Jefferson, N. C., May 31st.

Dr. Frederick M. Patterson and Miss Marion Willis Reeves, Greensboro, June 10th.

ON BEING OURSELVES

(From Address of Pres. Illinois State Med Soc., Chapman, W. D., Silvis, Ill., in The Illinois Medical Journal, June, 1931)

For our own ease of living we would do well to know that economic forces from without build the setting in which we work and that never, until we speak as a unit, will we be able to exert maximum influence upon social foolishments which seem at a given moment to possess an economic use.

With such a voice, maintained upon orderly discipline, we would see marked fading of efforts at the practice of medicine by politicians, mathematicians, feminists, pacifists, communists, biologists, economists, manufacturers and insurance companies—dissatisfied with their own arithmetic.

Social insurance, paternalism, fiat medicine, corporation practice, and some other evils can best be combatted by fostering professional unity and the policing of inadequacies within our own ranks.

The age of over-specialization is passed. When we buy automobile tires at gasoline filling stations and automobiles from men who sell radios and we are shaved by insurance salesmen and we see lawyers doing a little real-estate brokerage; we know that we have encountered a trend and that not all of the 60 per cent. of recent medical graduates who claim specialties will continue the claim... [Italics ours.—S. M. & S.]

That is wholesome and is for the good of society in both an economic and a physiologic way. The general practitioner who has come back is an improvement and is cause for congratulation. The challenge that no man could assimilate and use the flood of new paraphernalia and new thoughts was too great a challenge to be ignored. Professional nature was put to a test no greater than by other seemingly insurmountable obstacles; a little time, some more hard roads, a change in distribution of tools, appliances and operators, and solution seems at hand. He again is recommending the services of specialists to his patients in his own discretion. The self-diagnosis which led patients to choose their own specialists is not the trend of today to the degree that it was 10 years ago.

The tribulations of an ideal citizen in a practical world were well exemplified some 1900 years ago. Lacking the ability to invoke the religious fervor with which history has enshrouded the life and the works of Christ, organizations of men in the present year will accomplish greater good by adapting their actions to their settings.

And so recognition of the ideal and work toward it while we speak the language of the day becomes our best field.

BOOK REVIEWS

THE PSYCHOANALYSIS OF THE TOTAL PERSONALITY: The Application of Freud's Theory of the Ego to the Neuroses, by FRANZ ALEXANDER, M.D., of Berlin, Germany; Authorized English Translation by BERNARD GLUCK, M.D., and BERTRAM D. LAWIN, M.D., of New York, with a Prefatory note by A. A. BRILL, M.D., of New York. *Nervous and Mental Disease Publishing Co., Washington and New York, 1930. \$3.50.*

Written with the idea clearly in view that our first concern here is with getting sick folks well, *i.e.*, with the therapy of the neuroses, the approach to the subject is such as to prejudice practicing physicians in favor of the book.

The author evidently is at great pains to make intelligible to persons other than psychoanalysts, the discussion of a subject which, like golf in this respect, has built up a language of its own. It seems that he is trying so hard to make it simple to the uninitiated, that none but a churlish fellow would refuse to try hard to follow. However, the reviewer has to confess the task to be beyond his abilities. And he tried hard, first setting down words which were strangers to him, or were in groupings which he could not understand. Soon there was a long list which, even with all the aid afforded by Stedman's and Gould's latest medical dictionaries and Funk & Wagnalls New Standard, remained meaningless to him.

We are sorry that we can't make out what it is about. We believe writers on psychology and psychiatry could express themselves in words which other doctors could understand with the aid of the best and latest dictionaries. If not, would it not be well that each such writer append a glossary giving his own meaning of terms, simple and compound, not to be found in such dictionaries? We believe at least 90 per cent. of doctors of medicine are hopelessly muddled by the terms when they earnestly attempt to learn about psychoanalysis, and that the subject can be covered in words understandable to us.

INTERNATIONAL STUDIES OF THE RELATION BETWEEN THE PRIVATE AND OFFICIAL PRACTICE OF MEDICINE WITH SPECIAL REFERENCE TO THE PREVENTION OF DISEASE conducted for The Milbank Memorial Fund, by SAS ARTHUR NEWSOME, M.D., K.C.B., M.D.,

F.R.C.P., Vol. II. Belgium, France, Italy, Jugoslavia, Hungary, Poland, Czecho-Slovakia. *Williams & Wilkins Co., Baltimore; George Allan and Unwin, Ltd., London. \$4.00.*

Vol. I (The Netherlands, Scandinavia, Germany, Austria, Switzerland) was reviewed in our issue for June. This is a continuation of the same studies in different countries. The writer's observation is that in nearly every country the same difficulties in general are being experienced, some features predominating in one, and others in others.

Belgium's doctors are organized in such a way that their services to persons coming under the operation of compulsory sickness insurance laws are paid for in each case according to actual work done. The birth-rate is practically the same as for 30 years. Half the population belongs to sickness insurance societies. The medical profession attach great importance to the free choice of doctor and payment direct to the doctor based on services rendered.

In France there are bonuses for children more than 2, and monthly allowances to mothers who suckle their babies. Private charity plays a large, sometimes the chief part, in help in childbirth. More well trained midwives are needed. Vaccination against tuberculosis is done. A new law covering insurance as to sickness, maternity, invalidism, old age, unemployment and death, is being tried out. It is believed that the French law makes impossible the domination of the profession by the insurance societies which has made an intolerable situation in Germany. Public health work and other medical care for which any branch of the government pays is carried on with due respect to the rights of private doctors.

The general medical organization of Italy is not very different from that of France. Large quantities of quinine are given away by the State. Free dispensaries have been provided for the treatment of venereal diseases for the entire population.

In Jugoslavia each commune is required to employ a doctor who supervises local sanitation, inspects the schools, does required medico-legal work and attends the sick poor. He also does private practice. Hospital treatment required for the poor is paid for by the public. There is a national system of sickness insurance for all employed.

Hungary is oversupplied with doctors, and the profession is poorly paid. Each commune of 1,500 inhabitants has a paid physician and midwife. Sickness insurance is compulsory. There is no free choice of doctor. There is no unified anti-tuberculosis work. Free treatment is given to venereal patients at the 4 chief Universities and the Insurance Institutes have clinics for insured persons and their families.

In Poland all employed persons must be insured. The conspicuous feature is the great development of ambulatories. There is a lack of doctors. For all employed persons sickness insurance is compulsory. In some parts a part-time doctor is paid according to the time spent in tending for sick. As elsewhere insured persons commonly want an almost immediate return for payments. The tuberculosis death rate is high and anti-tuberculosis work ill-organized. Some larger towns have venereal clinics and the ambulatories do much of this work. In Posen (pop. 250,000) the doctor's union by contract receive 18 per cent of the income from the insured. Not more than 10 out of 200 doctors rely on private practice.

Czecho-Slovakia has established a plan by which compulsory sickness insurance will soon include nearly the entire population. There is little free choice of doctor by the insured. A great difficulty, here as elsewhere, inherent in sickness insurance is that it often serves as an alternative to unemployment insurance. Obstetrics is mainly in the hands of midwives. There are 200 anti-tuberculosis dispensaries. The law requires that one with venereal disease undergo treatment by a licensed physician. In Slovakia salvarsan is supplied free.

THE SIGNIFICANCE OF WATERBORNE TYPHOID FEVER OUTBREAKS 1920-1930. by ABEL WOLMAN and ARTHUR E. GORMAN, with a foreword by THOMAS PARRAN, JR., M.D., Commissioner of Health, State of New York. *The Williams and Wilkins Company*, Baltimore, 1931. \$2.00.

Waterborne typhoid is still a problem to the public health official and the private health official—the family doctor. Here we may learn how we have failed in the application of the knowledge we have and piece out our knowledge from what was learned from studying recent outbreaks.

AN INTRODUCTION TO GYNECOLOGY, by C. JEFF MILLER, M.D., Professor of Gynecology, Tulane University School of Medicine; Chief of the Department of Gynecology of Touro Infirmary; Senior Visiting Surgeon, Charity Hospital, New Orleans. Illustrated. *C. V. Mosby Company*, St. Louis, 1931. \$5.00.

Written for beginners the book is arranged in 16 chapters to correspond with the usual present arrangement of the junior course in 16 lectures. It has an outline and epitome of the anatomy and physiology of the sex organs proper and the endocrines. It describes methods of examination and diagnosis of gynecological conditions with emphasis on disorders of function. The illustrations are numerous and effective. Treatment is not within the scope of the work.

CLINICAL DIETETICS: A Textbook for Physicians, Students and Dietitians, by HARRY GAUSS, M.S., M.D., F. A.C.P., Instructor in Medicine, University of Colorado, School of Medicine, assisted by E. V. GAUSS, B.A., Formerly Assistant Dietitian, Presbyterian Hospital, Denver. Illustrated. *C. V. Mosby Company*, St. Louis, 1931. \$8.00.

An unusual and attractive feature is a historical introduction treating of the period before cooking, the food culture period, the kosher laws, early studies in nutrition and scurvy—the pestilence of the seas. Diets are discussed from the aspects of indications and contraindications. The principles of feeding of the well and the sick are described and in special conditions as fever, disorders of different portions of digestive apparatus, diabetes, obesity, cardio-vascular-renal disorders, epilepsy, gout and arthritis. The chapter on feeding in fevers makes entertaining reading. A distinctive feature is that much attention has been paid to arranging attractive diets, which can not fail to enable doctors, nurses and dietitians to add greatly to the comfort and happiness and prolong the lives of many patients.

THE TREATMENT OF DYSMENORRHOEA

(Dunn, B. V., in *British Med. Jour.*, June 6th)

From their earliest years some girls and women have had their simplest physiological acts associated with feelings of shame and repugnance. Such an association is bound to make a child magnify any slight discomfort experienced at a time when she is undergoing rapid mental development and in a region she has been told is so important as to be unmentionable. The overanxious parent insists on the child lying up when it is more than ever necessary that

the circulation in the pelvic area should be encouraged. Gradually a habit of pain becomes formed, the nerve paths for pain become especially sensitive from much use, and, unless a new hygiene is quickly enforced, dysmenorrhoea may continue for the rest of the sexual life. The great hope in treatment is to catch her young, before the habit of pain is too well formed. Then we must be ready to spend a good deal of time, first with the patient's parents (either or both) and then with the patient herself. The matter must be talked out. "Business as usual" should be encouraged during the menstrual period, along with the daily warm bath and an adequate amount of exercise. Long expeditions, matches or competitions are to be forbidden. The older patients with this type of dysmenorrhoea are a trouble to their medical advisers as well as a nuisance to themselves. The only people who profit by them are the vendors of patent medicines and the retailers of gin.

Overaction of the anterior pituitary, overproduction of the alpha hormone, and overproduction of oestrin by the ovary may be responsible for that type of dysmenorrhoea which occurs in early developed young women who started to menstruate early and copiously, and who have well-marked secondary sex characters. This class of patient benefits mostly by active elimination during the few days immediately preceding the period. In addition to the exercises and baths recommended in the last section, the administration of magnesium sulphate first thing in the morning for three days prior to the expected period is often productive of very favourable results.

In cases in which the cervix is conical in shape and the os unduly small, dilatation either alone or combined with a plastic operation is the method of choice. To be efficacious the cervix should be dilated up to number 14. Further, the patient must be warned that the operation may have to be repeated in three-months' time. When operation is refused or is inadvisable, or sometimes as a concomitant to operative treatment, atropine is of considerable value. Commencing two days before the expected onset of the period, 1/200 to 1/100 of a grain should be given three times a day. In severe cases it is often advisable to combine the antispasmodic with an analgesic and a sedative in the following cachet: luminal $\frac{1}{2}$ grain, pyramidon 5 grains, ext. hyoscyamus 1 grain.

In Germany, Blos has treated dysmenorrhoea by the injection of alcohol. He believes that dysmenorrhoea is due to increased sensitivity of the ganglia governing the uterus. At each side of the cervix is injected 5 c.cm. of 70 per cent. alcohol, containing 5 per cent. novocaine. He says that the treatment has given excellent results for 10 years, with no harmful effects on childbearing.

"You have a splendid collection of mounted fish—but what are the empty panels for?"

"Oh, those are some that got away."—*Times of India*.

THE CONTROL OF MOSQUITOES

U. S. P. H. S.

A large number of towns carry on an anti-mosquito campaign each season and have men employed exclusively for mosquito eradication. As a rule, the town looks after the natural breeding places of mosquitoes, such as pools, ponds, storm water catch basins, and water courses, and helps to enforce the local mosquito ordinance. The house tenant should empty or oil all containers on his property. In the Southern States the State health departments have taken the initiative in arousing the interest of the town officials and civic associations in the mosquito problem, and the result has been the elimination from town suburbs or the control of many sources of the malaria-conveying mosquito.

The general plan of attack in city mosquito reduction campaigns is to eliminate as many of the mosquito breeding places by such drainage as is practicable, and to control mosquito production in those that remain by applying kerosene oil to the water surface at intervals of from seven to 10 days. When village or town campaigns are first started, it is not unusual to find that mosquitoes are being allowed to breed in water containers in as many as one-third of the house yards, and such conditions naturally produce a continuous nuisance.

Wherever there is quiet water, the mosquito will find it; and so it is advisable for the house tenant to make an inspection of the back yard once each week to see that nothing is left out that can catch and retain rain water. Even if the water is not in sight, so long as it is accessible it will be reached by mosquitoes. They can get to water in a cistern by going down a rain water pipe, even on a two-story house, that leads to a cistern, which they frequently do, and they get at water in cisterns that are not perfectly covered or perfectly screened.

It has too often been stated that mosquitoes originate in damp places, that they are wind-blown, and that when bats are sufficiently numerous they control mosquito production. None of these statements is true. Mosquitoes that have originated elsewhere in water will collect in relatively damp, shaded places in the daytime; but such places are not places of origin. Some types of mosquitoes voluntarily travel long distances with light prevailing winds. With regard to bats, in areas where bats are decidedly numerous we find mosquitoes propagating close to the bat roosting places and roosting in the bat shelters.

It often happens that most of the annoying mosquitoes come from sources that have been considered of small importance and that the larger bodies of water, thought to be the main source of mosquitoes, actually produce very few. In many States the local health officials, or the office of the State entomologist can be of assistance in identifying the species of mosquitoes, and many communities have had assistance along this line from the State Board of

Health, the Bureau of Entomology of the Department of Agriculture and the United States Public Health Service, Washington, D. C.

INDICATIONS FOR ADMINISTRATION OF ALCOHOL

(From Sollman's Pharmacology, 3rd Edition)

Seventy per cent. alcohol is a fairly effective germicide. Concentrations above 80 per cent. and below 60 per cent., however, are almost inactive because they do not penetrate proteins as readily.

Its usefulness as a quickly acting ("diffusible") stimulant can scarcely be doubted in the various forms of sudden circulatory collapse—syncope, exhaustion, hemorrhage, traumatic shock, snake venom, strychnine, aconite, veratrum poisoning, etc. The main element in this action is the reflex stimulation, increasing the pulse rate, the blood pressure and the respiration. The narcotic action is also useful. The subsequent vasodilation is not sufficiently pronounced to have any practical significance.

The reflex action being brief, alcohol acts mainly as a temporary emergency remedy, to tide the patient over the immediate dangers. To secure these relex effects, 25 c.c. (nearly 1 f. oz.) of whiskey or brandy given undiluted, and preferably hot, repeated every ten to fifteen minutes, according to effect.

In cardiac disease the actions of alcohol are scarcely available except for temporary conditions, such as acute myocardial insufficiency. In chronic lesions, small doses may be valuable to lessen the worries of the patient, especially if he has been accustomed to its use. The vasodilator effect may be useful in angina pectoris, but it is inferior to the nitrites.

Taken after the exposure, the dilation of the cutaneous vessels favors the absorption of external heat, and also prevents the tendency to congestion of internal organs, and thereby the tendency to "catch cold."

In general, moderate doses act as "condiment" or stimulant to digestion. In this the flavor and the hyperemia co-operate to increase the appetite, the flow of digestive juices, the movements of the stomach and absorption. The action of ferments is also accelerated.

Small quantities of alcohol, taken with meals, therefore, tend to have a favorable action on digestion. In pathological conditions, in depressive emotional states, and perhaps in overheating, the effects may be beneficial.

The value of alcohol in convalescence and debility is supported by long experience. Alcohol helps to meet these indications in the feeling of well-being caused by it, the sense of capability, the removal of worry, the enjoyment in the act of taking it, the rest and sleep induced by its narcotic action, its food-value and its beneficial effects upon digestion, all concur in its action.

The influence of alcoholism of the parents on their offspring is still an unsolved problem, the data

as well as opinions being so contradictory that no definite conclusions can be drawn.

ACUTE MERCURY POISONING, 21 CASES, TREATMENT SUGGESTIONS

(Johnstone, B. I., Detroit, in *The Canadian Medical Association Journal*, April, 1931)

In spite of the long list of drugs brought forward as of value in the treatment of mercury poisoning, it has not been established that we have any effective antidote after the metal has reached the circulation. One of the most recent substances introduced for this purpose is strontium thiocetate. This, in turn, has been shown to be without value in experimental work on animals.

Without doubt, our most valuable method of treatment is the mechanical removal of the poison, as once a lethal dose has entered the circulation our chances for saving life are small. By the time the average patient reaches the hospital a considerable portion of the drug will have passed into the small intestine. This may be avoided if immediately after the gastric lavage a duodenal tube is passed and transduodenal irrigation carried out, by passing slowly down the tube a warm saturated solution of sodium bicarbonate until the patient expresses a desire to defecate. This usually occurs after one or two quarts have been given. In this way, the whole intestine is washed out, removing at once that portion of the drug which has left the stomach. One ounce of a saturated solution of magnesium sulphate should be left in the duodenum before withdrawing the tube.

Six ounces of milk, alternating with two ounces of lactose in six ounces of fruit juice are given every two hours. A careful record is kept of the fluid intake and every effort made to give at least 5,000 c.c. each 24 hours.

Within a few hours after ingestion the salivary glands, gastric mucosa and large intestine begin to excrete mercury. If reabsorption is to be prevented repeated lavage of these areas is important. A mouth-wash consisting of a saturated solution of sodium thiosulphate should be used frequently and the stomach and colon irrigated twice a day.

A new social order is rapidly developing under our eyes and it excites in us no more than a mild amusement. The racketeers of today will be the aristocrats of tomorrow. Europe's aristocracy sprung from the robber barons of the middle ages. These hardy racketeers built their castles hard by some mountain pass, or highway of public travel. They issued out of these fortresses to prey upon the passing public. It was no easy matter to pass with any sort of merchandise. When they had waxed fat they established churches and lent the weight of their names to pious works and to law and order. They appointed holy men to be their chaplains and confessors, and gave largess to the poor.—Thomas Lomax Hunter in the *Richmond Times-Dispatch*.

Tri-State Medical Association

THIRTY-FOURTH ANNUAL MEETING

RALEIGH, N. C.

February 15th and 16th, 1932

PRESIDENT

Dr. B. R. Tucker
Richmond, Va.

VICE-PRESIDENTS

Dr. Douglas Jennings
Bennettsville, S. C.

Dr. W. C. Ashworth
Greensboro, N. C.

Dr. J. F. Geisinger
Richmond, Va.

SECRETARY-TREASURER

Dr. J. M. Northington
Charlotte, N. C.

COUNCILLORS

THREE YEARS TO SERVE

Dr. D. B. Cobb
Goldsboro, N. C.

Dr. J. W. White
Greenville, S. C.

Dr. E. P. Lehman
University, Va.

TWO YEARS TO SERVE

Dr. DeWitt Kluttz
Washington, N. C.

Dr. J. H. Cannon
Charleston, S. C.

Dr. H. J. Langston
Danville, Va.

ONE YEAR TO SERVE

Dr. R. E. Seibels
Columbia, S. C.

Dr. Dean B. Cole
Richmond, Va.

Dr. C. C. Orr
Asheville, N. C.

Medical Society of the State of North Carolina

SEVENTY-NINTH ANNUAL SESSION, WINSTON-SALEM,

April 18, 19, 20, 1932

Headquarters: Robert E. Lee

PRESIDENT

Dr. M. L. Stevens
Asheville

PRESIDENT-ELECT

Dr. John B. Wright
Raleigh

FIRST VICE-PRESIDENT

Dr. C. W. Banner
Greensboro

SECOND VICE-PRESIDENT

Dr. W. W. Sawyer
Elizabeth City

SECRETARY-TREASURER

Dr. L. B. McBrayer
Southern Pines

COUNCILORS 1931-1934

FIRST DISTRICT

Dr. C. B. Williams
Elizabeth City

SECOND DISTRICT

Dr. K. B. Pace
Greenville

THIRD DISTRICT

Dr. J. T. Hoggard
Wilmington

FOURTH DISTRICT

Dr. C. F. Strosnider
Goldsboro

FIFTH DISTRICT

Dr. A. B. Holmes
Fairmont

SIXTH DISTRICT

Dr. W. M. Coppridge
Durham

SEVENTH DISTRICT

Dr. Addison G. Brenizer
Charlotte

EIGHTH DISTRICT

Dr. Thos. C. Redfern
Winston-Salem

NINTH DISTRICT

Dr. M. R. Adams
Statesville

TENTH DISTRICT

Dr. Joseph B. Greene
Asheville

CHAIRMAN COMMITTEE ON ARRANGEMENTS

Dr. R. L. Carlton
Winston-Salem

CHAIRMAN COMMITTEE ON LEGISLATION

Dr. Benj. J. Lawrence
Raleigh

CHAIRMEN OF SECTIONS 1932

PUBLIC HEALTH AND EDUCATION

Dr. C. C. Hudson
Greensboro

SURGERY

Dr. Roy B. McKnight
Charlotte

OPHTHALMOLOGY AND OTO-RHINO-LARYNGOLOGY

Dr. V. K. Hart
Charlotte

GYNECOLOGY AND OBSTETRICS

Dr. John Watkins
Asheville

PEDIATRICS

Dr. Sam F. Ravenel
Greensboro

PRACTICE OF MEDICINE

Dr. William H. Smith
Goldsboro

CHAIRMAN COMMITTEE ON OBITUARIES

Dr. C. M. Van Poole
Salisbury

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., *Supt.*)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

Obstetrics and Gynecology

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS FANNIE AUSTIN, Nurse

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*

CHARLES S. MOSS, M.D. *Surgeon*

O. J. MACLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE *Pathologist*

INTERNAL MEDICINE

JAMES M. NORTINGTON, M.D.

Diagnosis and Treatment
in

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park

Arkansas

JAMIE W. DICKIE, B.S., M.D.

INTERNAL MEDICINE
DISEASES OF THE CHEST

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

Practice Limited to
ORTHOPEDIC SURGERY and FRACTURES

Fifteen West Seventh Street
105 W. Franklin Ave.

Charlotte
Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761
Burlington North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J
3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT
Telephones—

Office—4063
Hours—9 to 5 and by Appointment
219-23 Professional Bldg. Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.
Consultation 219 Professional Bldg.
Phone 4063

SURGICAL TECHNIQUE

POSITION WANTED: Well trained registered technician, 21, would like to have place in hospital or private laboratory. Can do general laboratory work including Wassermanns and tissues. Can also give Basal metabolism tests. What have you to offer? *References.* Address Miss C. L. S., care this journal.

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

*NERVOUS AND MENTAL DISEASE
ADDICTIONS*

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.
RAYMOND THOMPSON, M.D.
CLAUDE B. SQUIRES, M.D.
THEODORE M. DAVIS, M.D.

Prostatic Resection and Operative Cystoscopy:

THEODORE M. DAVIS, M.D.
CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology:

ROBERT H. LAFFERTY, M.D.
CLYDE C. PHILLIPS, M.D.

Proctology:

L. D. McPHAIL, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

5th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKAY and McKAY***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.

Charlotte

Residence Phone 1858

Office Phone 1857

221 East Main Street

DR. W. B. LYLES

Spartanburg, S. C.

Practice limited to

UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., Director***PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM*

Colonial Apartments

Greer, S. C.

WYETT F. SIMPSON, M.D.*GENITO-URINARY DISEASES*

Phone 1234

Hot Springs National Park, Arkansas

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

R. B. McKNIGHT, M.D.*SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30-5

Professional Building

Charlotte

WM. MARVIN SCRUGGS, M.D., F.A.C.S.*SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

WILLIAM FRANCIS MARTIN, M.D.*GENERAL SURGERY**GYNECOLOGY*

Professional Building

Charlotte

HAROLD GLASCOCK, M.D.*GENERAL SURGERY AND
DIAGNOSIS*

Office At

Mary Elizabeth Hospital

Raleigh, N. C.

Hernia and the Compensation Law

JAMES W. DAVIS, M.D., F. A. C. S., Statesville, N. C.

The Davis Hospital

The fact that an insurance company is liable for treatment and payment during the time he is out of work makes the case of a man who develops a hernia while working in an industrial plant an important problem. The pained and painful expression which comes over the face of every insurance adjuster when the subject of hernia is mentioned is mute evidence of the fact that the insurance companies feel that they are being mistreated in some way or other.

The two most common hernias are the inguinal and the femoral. The inguinal occurs many times more frequently than all other kinds combined. This type will be discussed especially in this paper. In compensation work nearly all hernias occur in men. The same general principles hold in both inguinal and femoral types.

Hernias are congenital or acquired. To be properly classed as acquired a hernia must not only not be present at birth; it must also *not be due to a congenital defect*.

To properly understand the subject of hernia one must go back to the development of the embryo and fetus. In male children the testicle is formed within the abdomen behind the peritoneum. As development proceeds, the testicle descends into the scrotum. This usually occurs some time before or about the time of birth. Occasionally the testicle does not descend at all or only partly. As it descends the testicle pushes in front of it a fold of peritoneum into the internal inguinal ring, along the inguinal canal, through the external ring into the scrotum. This fold becomes the sac. Normally this sac closes at the internal ring and becomes obliterated in a good part of its extent. This is the situation in a normal individual and the chances are that a hernia will never develop.

However, another condition may exist which may be termed a preformed sac or a potential hernia. In such a case the internal ring may never close up and the sac itself may remain open from infancy on up to advanced years. Even with an open sac no hernia may develop, or it may develop only when the individual lifts or strains at a time when a loop of intestine or the omentum is in a favorable position over the internal opening and is pushed in by the increased pressure within the abdomen. This is exactly what happens in many cases which come up for compensation. The patient may never have had a hernia "come down" before; yet the preformed sac and the open ring is a potential hernia and requires only the descent of a loop of intestine or a projection of omentum into the sac in order to make a true hernia, which may fill all the five requirements for compensation.

Right here is where the insurance companies feel that they are being imposed upon, and where considerable contention has its origin. The employee may never have suspected that he had a potential hernia until one suddenly appeared following a strain. The employer feels that the employee should be taken care of by the insurance company. The doctor who takes care of the patient cannot always tell whether or not a hernia has existed previously. Of course, where there are adhesions or a thickening of the sac or evidence of a previous use of a truss, the surgeon who operates for repair of the hernia can tell there had been a hernia before. But where a hernia comes down for the first time, it usually is impossible to tell whether or not one existed before. It is possible also for a hernia to come down a number of times without leaving any evidence which would enable any one to state that it has been down before.

For some reason or other many patients who have a hernia keep this concealed even from their families and closest friends, and it is possible for an employee to impose upon the insurance companies. In many cases the employee's statement is the principal evidence as to the circumstances of the first appearance of a hernia. There should be some definite understanding between the employer, the insurance company, the employee and the industrial commission regarding these cases.

I feel that the best solution is to require each employee to present to the employer before he begins work a certificate from a reputable doctor stating that the patient does not have a rupture, and the results recorded and filed with the employer. A careful general examination should also be made and a report of the results filed with the employer. Particularly careful should be the search for hernia and other conditions especially apt to come up for compensation later. These examinations could be made by any reputable doctor and should be made at the expense of the employee. Every person should have periodical examinations anyway, for saving life, by preventing or arresting certain diseases which may not be discovered by the patient himself until it is too late. It is my opinion that the medical profession should adopt a standard fee for examinations of this kind, considerably less than the usual fee charged for a thorough examination.

After many years of experience with the adjusters for insurance companies, I have found them universally reasonable and fair in making adjustments. I have never known an adjuster who has used any unfair tactics in any way.

In their dealings with the cases which I have had to handle, the industrial commission has been eminently fair and just in their judgments and have rendered difficult decisions in a most satisfactory way.

In all fairness to employees, employers, insurance companies and the industrial commission, I earnestly recommend that employees be required to file annually with their employers a certificate regarding the presence or absence of a hernia.

A general physical examination would be even more preferable and would almost eliminate much confusion and controversy. In

addition, a physical examination would mean a great deal to the employee. The examiner could detect certain diseases which if left alone might prove disastrous, but which if detected early and treated properly might be cured without any great difficulty.

CONCLUSIONS

1. Hernias occur frequently.
2. The vast majority of inguinal hernias are due to a congenital defect or *preformed* sac, and even though no actual escape of intestines or omentum into the sac occurs, they may still be classed as potential hernias.
3. A true, traumatic hernia occurs very rarely.
4. A hernia may occur in an employee while at work and fulfill all the five requirements and yet may be due to a congenital defect of which the patient himself may be unaware until after the hernia "comes down."
5. In justice to employers and to insurance companies some change is advisable in the ruling regarding hernias.

LIVER WILL NOT CURE IN EVERY CASE OF PERNICIOUS ANEMIA

(Carey, J. B., Minneapolis, in *Archives Int. Med.*, June)

Three patients with pernicious anemia died while under treatment with adequate amounts of liver or liver extracts. They died just as one might have expected before the advent of liver therapy, although, with the exception of the third patient, possibly not so rapidly. I do not wish to draw any conclusions from these few cases, but certain comments may be made. Liver therapy apparently has no effect on the ultimate outcome in every case of pernicious anemia. It is too soon to begin to be hopeful that liver substances can indefinitely check the progress of the disease. In considering the result of liver therapy with the idea of deducing an etiologic hypothesis, it must not be forgotten that achylia and sclerosis of the spinal cord are integral parts of the syndrome and that these changes are apparently unaffected by liver. In certain cases it is evident that one must expect death as the result of the progression of disease of the spinal cord, in spite of a relatively good condition of the blood. In other cases, the blood-forming organs become incapable of further regenerative effort, perhaps as the result of the age of the patient, or even conceivably in younger patients because of exhaustive overstimulation. Finally, there are patients with an aplastic marrow who cannot become stimulated initially.

The Choice of Analgesic and Anesthetic in Obstetrics*

M. PIERCE RUCKER, M.D., Richmond, Va.

The question, whether analgesia and anesthesia are desirable or beneficial, does not properly belong in my paper. In this connection, however, I was interested to read in a recent London Letter of the *Journal of the A. M. A.*, that an ex-prime minister's wife had raised a fund to make it possible for the poor of London to receive some form of pain relief when confined. The matter was referred to a medical board which gathered some interesting statistics as to the prevalence of the practice of using anesthesia in obstetrics. Eighty-eight per cent of the women in the 6 or 8 London hospitals investigated got no form of pain relief whatever. The medical board recommended that the experiment of giving every woman some sort of analgesia or anesthesia be tried. The letter does not say whether this recommendation was adopted to please the ex-prime minister's wife, to expend the fund that was raised, or to help the patient.

From the time that Sir James Y. Simpson introduced the use of chloroform into obstetrics until the advent of "twilight sleep" there was scarcely any advance in obstetrical anesthesia. Gauss' publications stimulated a great deal of interest in the subject until now the obstetrician is sometimes at a loss as to what drug to choose. For an intelligent choice it is necessary to keep constantly in mind the physiology of parturition. In the first stage of labor, which averages 6 or 8 hours in multiparae and 18 to 24 hours in primiparae, the chief function of labor pains is the dilatation of the mouth of the womb. This is accomplished entirely by uterine contractions. When the cervix is fully dilated the fetus is expelled from the prepared birth canal by a combination of forces. The uterine contractions are rarely sufficient and are augmented by powerful contractions of the abdominal muscles, the diaphragm, and even the accessory muscles of respiration.

These are the so-called bearing-down pains. In the third stage of labor the placenta is separated from its attachment by a series of contractions and relaxations of the uterus. After its separation it is expelled by uterine contractions aided by abdominal muscles. Bleeding from the placental site is controlled by the contraction of the spirally arranged uterine muscle fibers about the afferent blood vessels.

In the first stage, if the analgesic agent stops uterine contractions, it stops all progress of the case. If, in the second stage, the bearing-down reflex is abolished, the baby must be delivered by artificial means. In the third stage, if uterine contractility be interfered with, there is apt to be a postpartum hemorrhage. The obstetric anesthetist's interest in the baby focuses on the respiratory center. If this center is depressed, the infant may remain in a state of apnea.

It has been shown that the uterus is able to function entirely independently of nerve connections. Nevertheless, its action is markedly influenced by the nervous system. This control is a dual one by the parasympathetic and the cerebrospinal nervous systems in a manner somewhat similar to that of the heart. The sensory nerves enter the cord in the sacral region.

From the anatomic standpoint the various anesthetic and analgesic agents may be arranged as in *Figure 1*. One can readily see that the pain sensations can be blocked, theoretically at least, by local infiltration of the pelvic nerves, a sacral block, a spinal injection, or by drugs that act on the central nervous system at various levels of the cord or mid-brain. I have arranged the drugs in the left-hand column, according to this action as judged by the effect on the reflexes. Sodium amytal, for instance, seems to affect principally the higher centers. Many times I have seen a patient carry on intelligent conversations and behave in every way like a normal person and yet afterwards declare that she had no recollection whatever of any-

1. Anesthesia in Labor as a Routine. *Journal A. M. A.*, 96: 1243, 1931

*Presented by Invitation to the Guilford County (N. C.) Medical Society, meeting June 4th, 1931.

thing that had occurred. Morphine and hyoscine seem to have a somewhat deeper action, as the patient's conversation, if any, is incoordinated and disoriented both as to place and time. The actions of the various anesthetics extend farther along the brain stem according to the concentration with which they are used. I have a feeling that nitrous oxide is more nearly an analgesic and chloroform an anesthetic of all nervous tissues, and that ether occupies an intermediate position. In other words, the reflexes are more quickly and more easily abolished by chloroform than by nitrous oxide-oxygen and that the nervous tissue holds on to the chloroform longer than it does to the gas. Of course, the location of the action in spinal, sacral and local infiltrations needs no comment.

ANESTHETICS

Ether was the first anesthetic to be used in obstetrics by Sir James Y. Simpson, but conditions under which most of the work at that time was done—open fires and lamp light—made it unsafe. Within a year he found a substitute in chloroform which held undisputed sway as the obstetric anesthetic *par excellence* for more than 50 years. Sir James offered other objections against ether besides its inflammability, *i. e.*, bulk, odor that clung to the clothing, disagreeableness to the patient, etc. Today, with improved heating and lighting systems, ether has regained its popularity. It can be used either intermittently with each pain or continuously for obstetric operations. When relaxation of the patient is desired, it is probably the best and safest anesthetic we have.

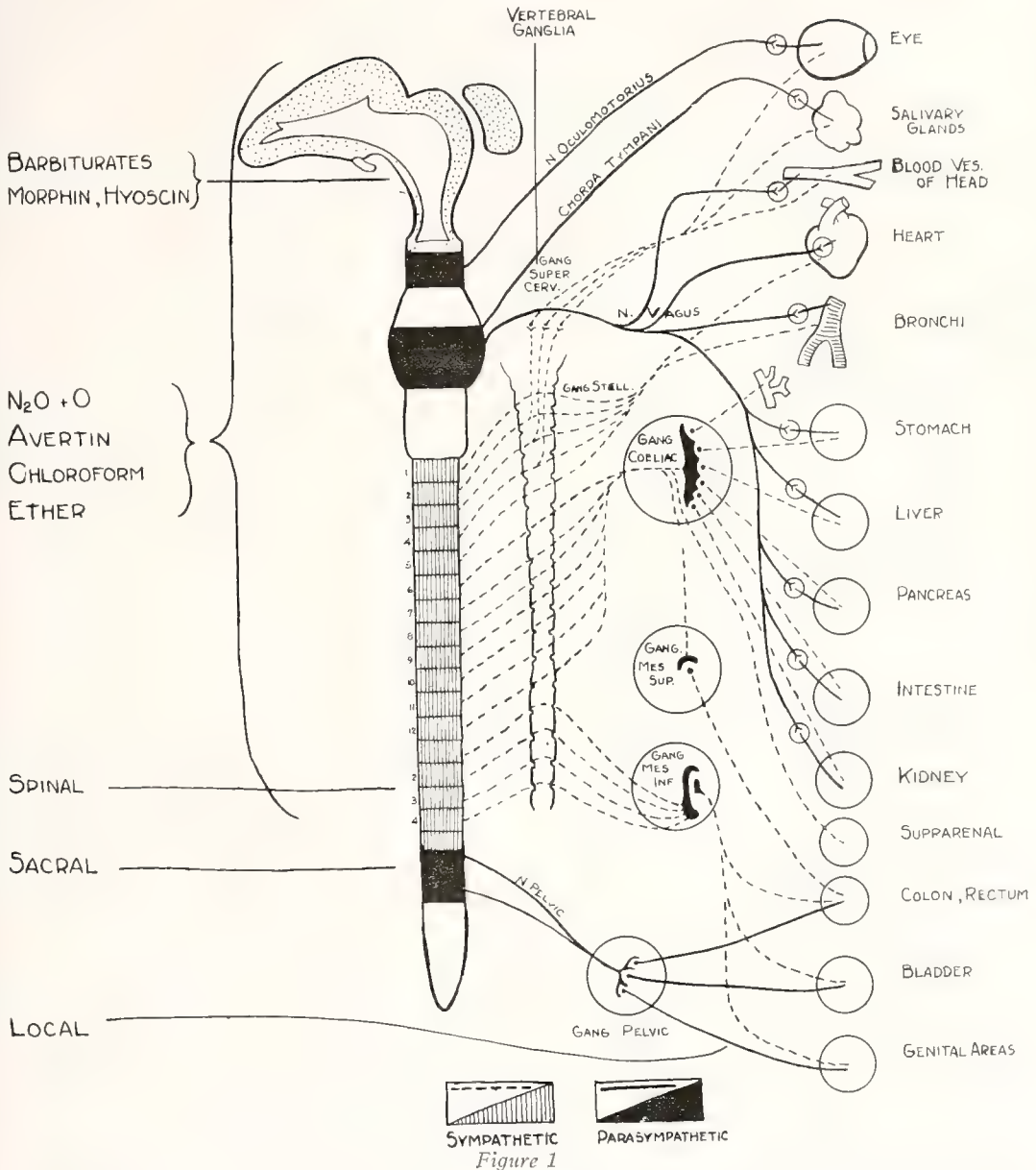
Chloroform has the advantage of ease of administration and pleasantness to the patient. It relaxes the patient and the uterus well and is comparatively safe when used for short anesthetics. When used for long periods it may, however, produce delayed poisoning akin to acute yellow atrophy of the liver. It probably produces more damage to the liver than any anesthetic commonly used and is therefore contraindicated in toxemias of pregnancy. However, Stroganoff uses it in eclampsia and recommends a few whiffs of chloroform each time an eclamptic is given a hypodermic. Today, when internes are trained to give ether, it is difficult to find an anesthetist who gives chloroform

well. It should always be dropped and not poured as one does ether.

Nitrous oxide-oxygen was introduced into obstetrics by Webster and Carl Davis. It requires a special apparatus that is not readily portable. It does not relax the patient so well as ether or chloroform. On the other hand it causes less liver damage than either of them. It is more pleasant to take, but even when skillfully given there is apt to be some cyanosis which may be shared by the fetus and which may play a part in the causation of intracranial hemorrhage.

Ethylene is a very pleasing anesthetic to the patient. It causes more relaxation than does nitrous oxide; enough usually to allow one to do a version. However, it increases the bleeding time in the new born. Sanford at the Presbyterian Hospital, Chicago, found the average coagulation time in the new born delivered under ethylene to be 3 minutes and that of babies delivered under nitrous-oxide anesthesia 2 minutes longer than normal. My experience coincides with his findings. During a year in which I used ethylene extensively my fetal mortality rose about 2 per cent, and it dropped to its former level when I stopped its use. Its explosiveness is a serious drawback. Several explosions fatal to the mother have been reported in obstetric literature.

Sacral anesthesia was formerly a favorite with me, and in 1928 I reported its use in 1,000 cases. It requires some technical skill, and even then one fails to get anesthesia in something like 10 per cent of the cases. When it works it is a very pretty anesthetic and is especially useful where an inhalation anesthetic is contraindicated. However, spinal anesthesia is much easier to induce and, when given according to the technic that has been worked out by Cosgrove, it is very safe. It is especially indicated in the type of cases in which one would give sacral anesthesia, and it has the advantage of working in practically every case. I have had one failure in upwards of 200 cases, and have had no untoward results. The dosage I have used is 50 mgm. of novocaine crystals dissolved in the patient's spinal fluid, preceded by a hypodermic of one ampule of ephedrine. With either sacral or spinal anesthesia one gets relaxation of the vagina and cervix, but the body of the uterus is unaffected. For



versions it is satisfactory if the operation be done gently and if one works only between uterine contractions. A hypodermic of 0.3 or 0.6 c.c. of adrenaline (1-1000) helps very considerably in relaxing the uterus. For spontaneous deliveries this type of anesthesia is useless as it completely abolishes the perineal reflexes and only very exceptionally can the patient be induced to use her abdominal muscles.

Local infiltration has been advocated by Gellhorn, King and others and would seem to be especially useful in low forceps cases

and in perineorrhaphies. My experience with it has not been as satisfactory as I would wish after reading King's and Gellhorn's articles. About the only use I make of it is injecting the cervix in cases of curettage with the patient under avertin analgesia.

ANALGESICS

We now come to the consideration of analgesics and first-stage procedures. Morphine and hyoscine occupy a prominent place; in fact, these drugs were supreme until the advent of the ether-oil rectal medi-

cation of Gwathmey and later that of avertin and the various barbiturates. The practical difficulty with morphine and hyoscine (or scopolamine) is with the dosage. In the twilight sleep as originally described by Gauss, the dosage of the scopolamine was governed by the memory test repeated at intervals of one-half hour. As used in the Barnes Hospital the dosage is regulated by muscle coördination. As long as the patient can touch the tip of her nose with the tip of her finger she needs more scopolamine. My own plan is to start with $1/6$ gr. of morphine and $1/200$ gr. of hyoscine. The $1/200$ gr. of hyoscine is repeated in an hour and then at intervals sufficient to keep the patient dozing between pains. If this does not occur, then some other method of testing the patient is used. If the precaution be taken not to give the initial dose—the one with the morphine—within 3 hours of the delivery, and if one does not try to get analgesia when the pains become severe in the late first stage or second stage, this is a safe procedure. In other words, it is a first stage procedure and should be supplemented in the second stage by some form of anesthesia. It is especially useful in primiparae when the first stage is long drawn out.

For multiparae and for primiparae seen late in the first stage the Gwathmey technic is especially useful. I also use this extensively as a supplement to or continuation of the morphine-hyoscine. The ether-oil has been proved to be safe in many thousands of cases. I have given up the use of intramuscular injections of 50 per cent magnesium sulphate after having had several abscesses develop at the site of the injection. These injections were given by graduate nurses in accordance to the prescribed technic and I was unable to discover that there had been any break in the technic. The only other untoward effect I have had with rectal ether in upwards of 900 cases was a superficial blister on the buttocks in a patient who had expelled some of the mixture without the nurse's knowing it. The effect of the injection lasts about 3 hours and it can be repeated. The best time to give it is when the cervix is about one-half dilated in primiparae. The longer one waits after this time the more apt the patient is to expel the

drug. The efficiency of nurses in giving ether-oil varies tremendously.

Avertin in doses of 60 mgm. per kilo. of body weight is used in the same manner as the ether-oil. It has certain advantages over the latter. It is not irritating and is retained in a higher percentage of cases. A great number of patients go off into a quiet sleep that lasts about one hour and for several hours more there is complete amnesia. Restlessness is very exceptional. The cervix dilates rapidly under the influence of avertin; often surprisingly so. This is especially true in the bagged cases.

Quite recently I have been interested in the barbiturates as first-stage analgesics. Although I have used them intravenously in a few cases, this mode of administration does not appeal to me. When, however, Carter and his co-workers at the University of Virginia worked out the dosage for the oral administration of sodium amytal, it seemed to me that the method was worthy of trial. My results in following this technic have been sometimes brilliant. My criticism at present is of the more-or-less fixed dosage and the impossibility of always knowing whether the patient has a sufficient dose to give the desired amnesia. The effect of the drug lasts from 12 to 14 hours and during this time the patient may be restless and irrational and demand more nursing care than usual. The great majority of my patients have been delighted with it, but exceptionally I have had a patient who has had no analgesia and no amnesia, and I have not been able to tell which the exceptions were until after the labor was over. Nevertheless, I believe these agents have come to stay. They are especially valuable in the toxic cases where the prolonged action of the drug is valuable rather than a trial. In the cases in which labor is induced by rupture of the membranes it has acted nicely. On the other hand, when there is a post-partum hemorrhage, one would wish that there were some way of curtailing the action of the drug.

SEQUENCE OF AGENTS

In *Figure 2* I have indicated the time in reference to the stages of labor where the various agents considered are best used. To

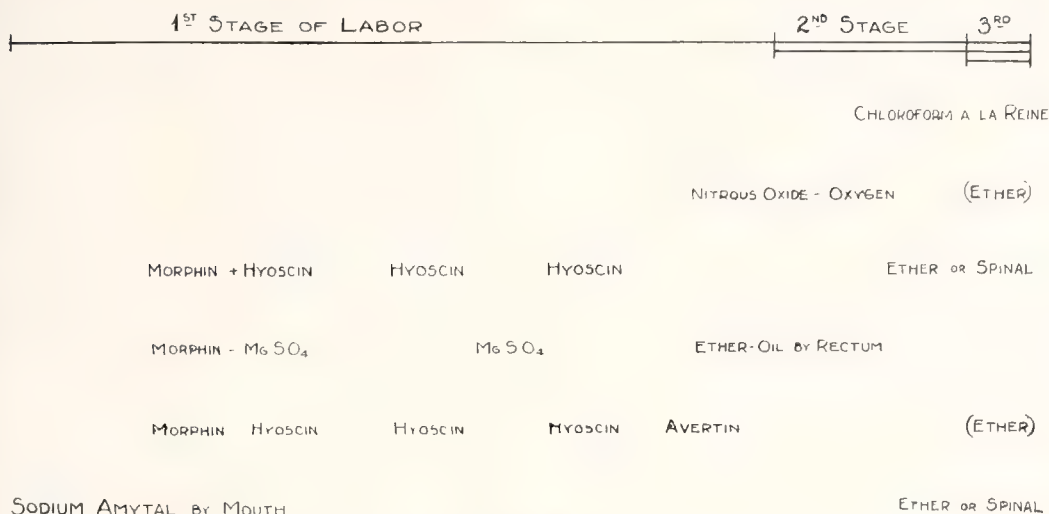


Figure 2

get the best results one must often employ a sequence of agents. One should plan the case beforehand to get the most out of the sequence and in this planning it is best to work backwards from the anesthetic you wish to use for delivery. For instance, if you plan to use spinal anesthesia, you would not choose avertin in the late first stage but would prefer some of the barbitals, although morphine-hyoscine or the Gwathmey goes well with spinal. Avertin, on the other hand, leads nicely up to an ether anesthesia. In some of my sodium amytal cases I have used nitrous oxide-oxygen when it seemed that the sodium amytal was not holding them. And in some when dilatation did not seem to be progressing properly I have used one or two doses of hyoscine.

CONCLUSIONS

1. The obstetric anesthetist must keep constantly in mind the physiology of parturition and the forces involved.

2. The analgesic and anesthetic must be chosen not only from the standpoint of the mother, whom you can see, but also from the standpoint of the unborn babe whose reaction to the agents used cannot be seen.

3. Each case presents problems of its own, both as to the length of labor and the ease of dilatation, as well as the physical condition of the patient.

4. There is no one satisfactory, 100-per cent perfect obstetric anesthetic.

SELECTIVE AFFINITIES BETWEEN CERTAIN UTERI AND CERTAIN SEMINA

(Kurzrok, R., and Lieb, C., *Proc. Soc. Exper. Biol. and Med.*, 1930)

Of many attempts to secure pregnancy by means of artificial insemination, only two were probably successful.

The same uterus may react to one semen by contraction; to another by relaxation. The same semen may contract one uterus and relax another. In a study of the history of the patients from whom uterine strips were obtained the uteri from the patients who give a history of successful pregnancy responded to fresh semen by relaxation, while uteri from women who gave a history of complete or long-standing sterility were always stimulated by semen. A tentative deduction is permissible: Uteri are of two kinds, receptive and rejective; semina are also of two kinds, stimulant and depressant. A large series of carefully selected cases will be studied, with the purpose of criticising these deductions.

From The "Byrth of Mankynde": Edition of 1540 (Cordon, C. A., Brooklyn, in *Am. Jour. Surg.*, July 1931)

If ye be desirous to know whether the conception be man or woman: then lette a droppe of her mylke or twayne be mylked on a smoothe glasse, or a bryght knyfe, other elles on the nayle of one of her fyngers, and yf the mylke flowe and spredde abroad upon it, by and by then it is a woman chylde: but yf the droppe of mylke contynue and stand styll uppon that, the whiche it is mylked on, then it is a sygne of a man chylde. Item, yf it be a male, then shall the woman with chylde be well coloured, and lyghte, her belly rounde, bygger towards the ryghte side then the lefte, for alwayes the man chylde lyeth in the ryghte side, the woman in the lefte side.

Recent Progress in the Management of Some Communicable Diseases*

KENNETH B. GEDDIE, M.D., High Point, N. C.

In recent years there has been distinct progress made in the prophylaxis and treatment of many of the communicable diseases.

MEASLES

The prophylactic use of convalescent serum for the prevention of measles in children has been reported by various investigators since 1918 when Nicolle and Conseil published the first successful immunizations. The protective value of this serum is unquestionable. Since it is practically impossible for the physician in private practice to have this serum at his disposal at all times, it will be of more practical value for us to consider in more detail the indications for, the technique of, and results to be expected from, the use of adult immune serum and whole blood in the prophylaxis and treatment of measles. This therapeutic agent is available to every general practitioner and deserves more general usage than it has received.

With varying doses of serum and varying time of administration either complete protection may be afforded or the severity of the attack lessened in a large percentage of cases. Complete protection should be the aim in very young, debilitated, or tuberculous children. Mitigation should be the aim in the average child exposed, *i. e.*, the serum should preferably be given from the 6th to the 8th day. No clinical method can give perfect results. It often happens that mitigation results when seroprevention was intended.

Method of preparing either adult or convalescent serum: Blood is drawn under sterile precautions and allowed to coagulate. The clot is then run off the side of the flask, and if not to be used immediately serum is preserved with 0.25 per cent tricresol and kept on ice ready for use. The optimum time for securing convalescent serum is from the 6th to the 10th day after the temperature has reached normal. It may be stored for

as long as 6 months without any serious loss of effect.

The minimum effective doses recommended by Degkwitz for complete protection are 2.5 c.c. for children up to 3 years of age who have been exposed for not more than 4 days; 5 c.c. for those children if exposed for 5 or 6 days, and 7.5 c.c. if exposed for 7 days. For older children he states that the dose should be in proportion to age and weight. He could see no effect from the serum if used after the 7th day following exposure. Zingher and many other observers thought that they were able to prevent the occurrence of the disease in some and modify its course in others by making the injections as late as the 8th or 9th day after exposure. If the serum is given after the commencement of the period of invasion, there is no favorable result unless it is given in amounts practically amounting to a transfusion.

Karelitz and Levin, from a review of the literature and their own experience, estimate the following dosage for prophylaxis.

Table No. 1. Levin and Karelitz
For Complete Protection

	Exposure Days	Convalescent Serum c.c.	Adult Blood c.c.	Serum c.c.
3 mos. to 3 yrs.	1-4	5	65-75	25-30
3 mos. to 3 yrs.	5-7	10	75-100	30-40
3 yrs. or over	1-4	10	75-100	30-40
3 yrs. or over	5-7	15-20	100-150	40-50
<i>For Production of Modified Measles</i>				
3 mos. to 3 yrs.	1-4	2-3	25-40	10-15
3 mos. to 3 yrs.	5-7	3-4	25-50	10-20
3 yrs. or over	1-4	3-4	40-60	15-20
3 yrs. or over	5-7	5	40-60	15-20

These doses in general are somewhat larger than those used by more recent ob-

*Presented to the Eighth District (N. C.) Medical Society, meeting at Winston-Salem, April 14th, 1931.

servers. Using this dosage in 60 cases 83 per cent were completely protected and 17 per cent developed mitigated measles. Zingher used 10-20 c.c. of convalescent whole blood in 25 children exposed to measles. Of these, two received the injection on the 8th day after exposure and developed a mild form of modified measles. The others received the injections from the 1st to the 8th day after exposure and were fully protected. In the absence of a convalescent donor, Zingher has found that adult blood in double or triple quantity was protective.

Barenberg, Lewis and Messer injected 60 children with 6 c.c. each of convalescent measles serum which was obtained either 10 or 30 days after defervescence. Forty, 73 per cent, remained completely protected. Of the 16 children who developed measles, 14 came down with a mild form. One of the two children who developed moderate measles received convalescent serum on the last day of the incubation period. No complications were observed in this group. Of the 56 children who received 30 c.c. of adult whole blood, 43, 77 per cent, developed measles; 23, 53 per cent, were of the modified type. Thirteen children remained free from the disease. The mitigation resulting from this blood was not quite so pronounced as that noted from the use of convalescent serum. Seven of these received the injection of blood late—7th to 10th day of the incubation period—whereas 10 were infected from 12 to 23 days after receiving the inoculation and were thereby deprived of the protective value of the blood. Thus it appears that only 2 children who received the blood within the proper time limits failed to benefit from it. They concluded that the protection from 30 c.c. of adult blood does not last longer than 8 days. When the blood was injected in the course of the first 5 days of the incubation period, mild attacks of measles resulted in 23 of 26 children. However, when the injection of blood was not given within the time specified, there was no result. The entire group of 38 children who received 8 c.c. of immune goat serum (Tunncliff) developed typical measles, and 35 per cent of these developed complications—the same percentage of complications as in the control cases.

Hoyne and Peacock concluded from the use of Tunncliff's immune goat serum in 81 cases that it was of undoubted value, since 43 persons exposed to measles and given the serum within 4 days and did not contract the disease, and 38 children exposed and given the serum 5 days or more after exposure all had modified forms of the disease. Only 2 patients had complications and none died. Peterman and others also received favorable results.

Morales and Mandry conclude that of 120 children exposed to measles by familial contact and immunized with 4 to 6 c.c. of convalescent serum, 102 were completely protected, and 14 of the remaining 18 developed attenuated measles. Of the 132 children exposed to the disease by familial contact and immunized with doses from 20 to 40 c.c. of immune adult serum, 108 received complete protection, and 20 of 26, 70 per cent, of those attacked developed mild measles. Doses of 10 and 15 c.c. of adult immune serum gave complete protection in less than 50 per cent of the persons immunized, but usually resulted in a mild form of the disease. Doses of 20 c.c. of adult serum gave about the same percentage as did 4 to 6 c.c. of convalescent serum.

CHICKEN-POX

Of interest particularly to those engaged in hospital, orphanage, or other institutional practice is the fact that an epidemic of chicken-pox in a hospital can be stopped by vaccination of those exposed by vesicle fluid or convalescent serum. The contents of a fresh vesicle are drawn into a capillary tube (after cleansing the vesicle with alcohol and salt solution and wiping dry with cotton). The contents of the tube are then expressed onto the forearm of the patient to be vaccinated and multiple punctures are made through this fluid. Kling was quite successful with this procedure in 1913 and many others since have had more or less favorable results. In 1923 Blackfan, Peterman and Conroy reported that among 42 susceptible children to whom 5 c.c. of convalescent serum had been given within 5 days of exposure, 7 contracted a mild form of the disease and 35 escaped without symptoms. S. F. Ravenel and Michel had good

results, 65 of 68 individuals being protected by average doses of 5 to 6 c.c. of serum from adults, taken from 10 to 14 days after onset. Three years ago I was able to stop a chicken-pox epidemic in a hospital by injecting 52 children with 5 to 10 c.c. of convalescent serum collected 18 days after onset.

SCARLET FEVER

Convalescent serum prophylaxis has been found useful in checking outbreaks of scarlet fever in hospitals and other institutions. Meader injected 450 scarlet fever contacts with 7.5 c.c. of pooled serum from donors who had had scarlet fever within a year. This serum was given within 6 months from the time it was drawn. Of the contacts 2.9 per cent developed scarlet fever, while 12.8 per cent of a similar group of contacts, who did not receive the serum developed scarlet fever. Apparently about 85 per cent were protected. Immunity did not last longer than 4 weeks.

POLIOMYELITIS

In the treatment of poliomyelitis human immune serum is the only available substance having a generally recognized specific therapeutic effect. Shaughnessy and Frost, Peabody, Draper and Dochez and others have demonstrated that the serum of every convalescent poliomyelitis patient does not necessarily contain the specific viricidal substances; furthermore, a rather large percentage (70-80) of normal persons without history of previous attack of poliomyelitis may contain immune bodies. Faber recently called attention to the practical use of these experimental observations and recommended the use of transfusion donors for the treatment of poliomyelitis.

SUMMARY

We may say that we have a method for use in the prophylaxis and treatment of measles which is of undoubted value. It is available to any practitioner who has a large Leur syringe and a needle. While convalescent serum may be preferable, the injection of adult whole blood in amounts of 20-40 c.c. or adult immune serum in 10 to 20 c.c. doses within the first 4 days of the incubation period will either prevent the occurrence or produce a modified type of measles in the vast majority of cases. Given in somewhat

larger amounts up to the 10th day of incubation mitigation will usually be produced.

The modification is usually seen as moderate rise of temperature, rarely reaching 102° F. and lasting only one or two days; and a typical rash, thickest over the face and trunk, of macules the size of a pin-head, absence of erythematous patches as observed in cases of unmodified measles; conjunctivitis and coryza absent or mild; Koplik's spots may not appear; complications are rare and death very unusual. These children usually feel fine and it is difficult to keep them in bed. I have seen the rash so slight that if exposure was not known a diagnosis could not have been made.

The use of immune goat serum is mentioned to show that no agreement as to its value had been reached by the competent and honest observers who had used it.

In conjunction with this rather sketchy review of the literature on the use of convalescent serum in the prophylaxis and treatment of measles, mention is made of the fact that it has been used successfully in combating epidemics of scarlet fever and chicken-pox in hospitals, orphanages and other institutions.

The use of convalescent serum is an accepted method of treatment of poliomyelitis. The use of immune adult transfusion donors as suggested by Faber would seem to be quite logical.

Bibliography

- NICOLLE, C., and CONSEIL, H. E.: Bull et mem. Soc. Med. de hop de Paris 42:336, 1918.
- DEGKOWITZ, R.: *Ztschr. F. Kinderh.* 25:134, May 1920; *ibid.* 27:171, 1920; *Monatschr F. Kinderh.* 22: 186, (Nov.) 1921; *Deutsche Med. Wchschr.* 48:26, (Jan.) 1922; *Beitr. z. Klin. D. Tuberk.* 57:136, 1923.
- ZINGHER, A.: Convalescent Whole Blood, Plasma and Serum in Prophylaxis of Measles, *Jour. A. M. A.* 82:1181 (April 12) 1924.
- KARELITZ, S.: New York. Reprinted from the *Am. Jour. Dis. Children*, March, 1927, Vol. 3, pp. 408-419.
- LEVIN, S.: Ann Arbor, Mich. Reprinted from the *Am. Jour. Dis. Children*, March, 1927, Vol. 3, pp. 408-419.
- BARENBERG, L. H.; LEWIS, J. M., and MESSER, W. H.: New York. Reprinted from the *Jour. A. M. A.*, July 5, 1930, Vol. 95, pp. 4-8.
- TUNNICLIFF, R.: *Jour. Infect. Dis.* 37:193, 1925. The cultivation of a Micrococcus from Blood in Pre-Eruptive and Eruptive Stages of Measles,

Jour. A. M. A. 86:1028 (April 7) 1917, Further studies in *Diplucoccus* in Measles. *Jour. Infect. Diseases.* Prevention of Measles by Measles—Immune Goat Serum, *Jour. Infect. Dis.* 37:193 (Sept.) 1925. TUNNICLIFF, R., and TAYLOR, R. E., Skin Tests in Measles, *Jour. A. M. A.* 87:2139 (Dec. 25) 1926.

HOYNE, A. L., and GASAL, B. M.: Measles Prophylaxis: Report on the use of Immune Goat Serum, *Jour. A. M. A.* 87:1185 (Oct. 9) 1926. HAL, L. J.: Prevention and Modification of Measles by Measles-Anti-Diplocus Goat Serum, *Jour. A. M. A.* 90:1109. (April 7) 1928. HOYNE, A. L., and PEACOCK, S.: Prevention and Modification of Measles with Antimeasles by Immune Goat Serum, *Am. Jour. Dis. Child.* 35:1021 (June) 1928.

SHAUGHNESSY, H.; JARMON, P. H., and GORDON, F. B.: Neutralization of the Virus of Poliomyelitis by Human Sera, *Proc. Soc. Exper. Biol. and Med.* 27:742 (May) 1930.

ANDERSON, J. F., and FROST, W. H.: Abortive Cases of Poliomyelitis, An Experimental Demonstration of Specific Immune Bodies in Their Blood Serum, *Jour. A. M. A.* 56:663, March 4, 1911.

PEABODY, F. W.; DRAPER, G., and DOCHEZ, A. R.: A Clinical Study of Acute Poliomyelitis Monograph 4, Rockefeller Institute for Medical Research, June 24, 1912, pp. 15-18.

FABER, HAROLD K.: San Francisco. *Jour. A. M. A.* Vol. 96, No. 12, pp. 935-939, March 21, 1931.

AYCOCK, W. L., and KRAMER, S. D.: Immunity to Poliomyelitis in a Southern Population Shown by the Neutralization Test, *Jour. Prev. Med.* 4:201 (May) 1930.

WATER IS NOT H₂O

(Poyntz, L. K., Portland, Ore., *Medical Herald*)

Our school instruction as to the chemistry of water is in error. Even an elementary schoolboy will rattle off the formula H₂O with a glibness that shows there is no doubt in his mind about it. But we should know that H₂O can exist only as dry steam, and that water is two molecules in combination represented by the formula (H₂O)₂. Ice has been found to be (H₂O)₃. These three forms of water are in reality three different things. To dry steam, the gas, the name *hydrol* has been given; liquid water, the fluid, is *dihydrol*, and the solid form, or ice, is *trihydrol*. It may come as a surprise to learn that ordinary drinking water at room temperature contains 32.1 per cent. ice in solution. Even at the boiling point water contains 21.7 per cent. of ice.

Little, if any, water is absorbed in the stomach; the bulk of it is taken up in the small bowel.

It is a histological fact that there is not a single cell in the body that is possessed of a blood vessel of its own. The ultimate unit of living matter must, and does, depend upon the intercellular fluid for its nourishment, and exudation. This is a vital function of water, because the individual cells, and, conse-

quently, the entire body, depend directly on the water circulating among, and through, the cells.

Children, active in their play and dynamic in their motions, do not have to be persuaded to drink water—they have a natural thirst which they satisfy in a natural way. But in the older, slower activities and motions of adult life, the thirst is more or less lacking, the demand not so imperative; the habit of water-drinking has to be cultivated. The products of waste accumulate, and the need is there. I think it can be demonstrated that the outward manifestation of old age, the index of the inner, can be definitely delayed by the persistence of the habit of water drinking. Not only is the skin clearer, as it reflects a deep cleanliness, but the absence of fluid makes the skin appear redundant and wrinkled and sallow.

The very presence of *Bacterium coli* in water is sufficient evidence of pollution, because the source of the organism is fecal matter. In a similar way, chlorides in the water indicate contamination with urine, in the absence of salt deposits in the ground or ocean spray. Likewise, the finding of nitrites in solution points to recent pollution, because they are quickly oxidized to nitrates by *Nitrobacter*.

If a patient is instructed to drink consciously for three successive days, there is established a sane prophylactic measure, a health habit, that is continued by an actual desire. A simple way of maintaining freshness and youth is to frequently renew that water by adding fresh, and so eliminating the old.

TUBERCULOSIS FROM DIRECT INOCULATION WITH AUTOPSY KNIFE

(Alderson, H. E., San Francisco, in *Archives Dermatology and Syphilology*, July 1931)

An intern, aged 25, while assisting at an autopsy on a patient with tuberculosis on July 8th, 1929, pricked his left index finger with a knife. Two weeks later, he noticed a nodule the size of a pea at the site of the injury. He incised the nodule, but there was no pus. Within a few days, painful axillary (left) adenopathy developed. The axillary glands slowly enlarged, and five months later became soft and fluctuating. The primary lesion constantly remained nodular, but a very small amount of serum could be readily expressed. There had been no rise in temperature. Pus from an axillary gland showed tubercle bacilli in smears, and tuberculosis subsequently developed in the guinea pig into which the pus was injected.

BLOOD GROUPS IN RELATION TO SYPHILIS AND ITS TREATMENT

(Wong, D. H., and Chen, F. K., Peiping, in *National Med. Jour. of China*, June 1931)

Our findings are not in agreement with those showing a relation between one blood group and susceptibility to syphilitic infection, nor with those that indicate treatment for the disease to be more effective for one or other blood group.

Pyorrhea as a Focus of Infection, Suggestions for Its Early Recognition by the Physician*

WALLACE D. GIBBS, D.D.S., Charlotte, N. C.

Mr. President; Members of the North Carolina Medical Profession; Visitors:

I am honored, and dentistry is honored, when I am asked to address so distinguished a group as the North Carolina Medical Society. Had I been asked to discuss, or even to fully appreciate, any subject strictly within the realm of medicine I should feel hopelessly incompetent to do so. But, inasmuch as my subject deals with dentistry, or more properly a specialty of dentistry, perhaps I may be able to give a few thoughts and offer a few suggestions that may prove helpful.

For the wonderful progress which has been made by the medical profession, not only in North Carolina, but throughout the world, one can have but the highest praise. May I not say, likewise, for the progress of dentistry, particularly during the past dozen years or more, one can have only the greatest admiration?

Dentistry, until recent years, was little more than a highly specialized trade. It is true that we studied along with the medical student many of the basic subjects of medicine; but very few of us used the knowledge gained, our time being almost entirely occupied after graduation with mechanical thoughts. We became, perhaps, the world's best mechanics, and we were wonderfully proud of our achievements and the service we were rendering. For sheer ingenuity I have yet to see the equal of the old-fashioned dentist. And, inasmuch as we shall always need dental mechanics, we cannot praise too highly our predecessors who gave us the fundamentals of dental mechanics. However, we were rudely awakened from our mechanical complacency in the early part of the present century by a member of your profession, William Hunter, in his denunciation of many of our appliances from a health standpoint. This and later the challenge of many others, not only caused dentistry to reconstruct her ideas of mechanical appliances, but at the same time caused us to consider the health of the individual as a whole, not merely the teeth as such. Thus dentistry had the dual problem of caring for the teeth and considering their relation to the health of the individual. This was a large order for a profession whose thoughts had for generations been chiefly

along mechanical lines. The change could not be effected overnight. It meant the dentist would have to become better acquainted with pathology, bacteriology, physiology, the x-ray and many other subjects. Dentistry has faithfully endeavored to meet this obligation. But, we did not have the background nor the training that you of the medical profession have had. We must therefore turn to the only source from which we could get this information—the medical profession. And we wish here to express our deep appreciation for the wonderful help and encouragement that you have given us, individually and collectively. We must continue to depend upon you and we feel encouraged to believe that you will aid us in the future as you have in the past.

The object of dentistry in the past was to preserve the teeth. The object of dentistry today is to preserve the teeth and their supporting structures in a state of health, that they may be an asset rather than a liability to the patient's health. It is well for us to keep in mind that our duty is to preserve the teeth. It is a simple matter to order a tooth removed and usually it is a simple matter to remove it. This is one way of getting rid of infection—perhaps. When it is necessary I should be the last to oppose it, for the health of the patient is worth more than a tooth, or for that matter, than all the teeth. However, there are many teeth and their supporting tissues that can be effectively rid of infection without their removal.

Generally speaking, we are confronted with two pathological conditions in the mouth. One which attacks the tooth itself and is called dental caries, the other which

*Presented by Invitation to the Medical Society of the State of North Carolina, meeting at Durham, April 20th, 21st and 22nd, 1931.

attacks the supporting tissues of the tooth and is called pyorrhea. Each is decay or degeneration of tissues. And although there are many theories and individual opinions, the etiology of either condition has never been established. Our predecessors assumed that dental caries was curable, or at least amenable to treatment, and, therefore, devoted their time almost exclusively to it. The other condition, which they called pyorrhea for lack of better nomenclature, they considered incurable and condemned it as such. Hence, pyorrhea has been the despair of the dental profession. It has been called incurable and a disease of mystery. This has been largely because dentists have considered pyorrhea as one disease or condition, covering about all the benign lesions of the supporting tissues of the teeth, and further because dentists have looked for a specific infection and a specific cure. For years we looked for a specific infection or a constant strain of organism. Failing in this many still considered it primarily an infection. So long as we thought along such lines we made little or no progress.

Pyorrhea is an infection it is true, but the primary lesion is brought on by other causes, infection being secondary. Having arrived at this conclusion several years ago, and further having observed in many cases referred to me as pyorrhea that there was a great variety of symptoms present, that many cases presented symptoms entirely absent in other cases, I came to the conclusion that we were treating a variety of cases as a single condition, and that there must be different causes for many of the cases presented. I, therefore, made a chart enumerating these lesions, and from the chart a diagnosis sheet to which I have since adhered. I make an individual examination of each case before attempting its treatment. Thus, I have found that many conditions of the mouth are of local origin, others of systemic origin, and others apparently are influenced by both factors. For example, local filth in the mouth, such as calcareous deposits, food debris, poorly constructed dental appliances and other irritants undoubtedly cause a lowered resistance to the part with a breaking down of tissues, allowing invasions of bacteria. Likewise diabetes, anemia, syphilis and many other

systemic diseases are manifested in the mouth and tend to break down the tissues. We might also mention various drugs, poisons, individual habits, pregnancy, diet, metabolism and heredity. Thus while we may eliminate the infection, as we are doing and as we have done in innumerable cases, the condition will often return, to the despair of both dentist and patient. Hence pyorrhea as a disease of mystery. May I not say that the mystery lies in our lack of diagnosis, or more fundamentally, our lack of the proper knowledge of those subjects which would enable us to make a proper diagnosis? Pyorrhea becomes curable, and is no longer a disease of mystery, when dentists have sufficient understanding of those necessary factors which govern vitality of tissues, and apply it. It is necessary to eliminate infection in pyorrhea as elsewhere, and treatment by various means will do this, but permanency of results depends upon eliminating the cause.

Pyorrhea is a focus of infection of the mouth, and, contrary to general opinion, I feel that it is the most prevalent and potent of mouth infections. It is a disease of filth and a respecter of no person. It is found in mouths in which the most scrupulous hygiene is maintained. For we must remember that the lesion is beneath the gum line and is therefore not accessible to any known means of cleansing. The area of tissue involvement is greater than that of any other dental infection, or, indeed, of all other dental infections combined. I have ascertained by actual measurement of the inner circumference of the sockets of the teeth that the area of tissue possible of involvement is 20,000 sq. mm, as compared with 100 sq. mm. in the infection of the apex-abscessed teeth. And when we consider that the outer circumference of the sockets was not measured, nor that of the soft tissues involved, the amount of tissue possible of involvement in a pyorrheic infection is probably several times as great as the figure given. There are approximately 60 roots in a full set of teeth and each root has four surfaces—each capable of a separate pocket, making it possible for one to have 240 pockets in a case of pyorrhea. Each pocket is capable of holding a drop of pus.

I recently made an examination with a

member of your profession of a young lady who had, as nearly as we could ascertain, a pocket on each surface of each tooth—and each pocket revealed an exudate. This was at 9 a. m. At 5 p. m. we were able to express apparently the same amount of exudate from the pockets. Does this mean that the discharge was replacing itself every eight hours? If so, would there not be approximately 720 minims of pus daily from such a case? How much of this is being absorbed we do not know; that much of it must be absorbed is only a matter of common sense. It has been said that the abscessed tooth does not have drainage and that the pyorrheic tooth does. This is not always true. There are abscessed teeth that do have external drainage, and there are pyorrheic teeth that do not have drainage. Consider the hyperemia, calcareous deposits and other obstructions in pyorrheic pockets. There are pockets present, and often overlooked, in which there is difficulty in passing a fine probe. Consider also the laws of gravity in the lower jaw. And I do not feel that it is absolutely necessary that we have infection under pressure for absorption. This is not according to the laws of physics. Again many areas of infection in the apical region of a tooth are encapsulated. In support of this theory of pyorrhea as a focus of infection I should like to give a few cases from my files:

CASE 1. Man, 35. Came in on crutches in 1920. Joints apparently stiff; complexion decidedly sallow; no appetite; nervous; poor sleeper; weight 103. Pyorrhea with so great a loss of bone that treatment was out of the question. There were 32 teeth; no abscesses; no decay; no impactions. All teeth and all necrotic tissue thoroughly removed under general anesthesia. Patient reported a year later for artificial teeth, at which time there was no stiffness in joints; he did not use crutches; his color was normal; appetite normal; sleeping soundly; weight 164. No other treatment given.

CASE 2. Woman, 32, nervous, sallow, poor sleeper, very poor appetite; weight 88. January, 1931, operated surgically on pyorrheic pockets. April 1, 1931, weight 101; very little evidence of nervousness; appetite good; complexion very much improved; sleeping well. No other treatment.

CASE 3. Woman, 20, with almost exactly the symptoms of Case 2, February 3, 1931, weight 92. Treated by subgingival curettage. All symptoms

have practically disappeared. Weight at present 99. No other treatment.

CASE 4. Man, 30, complained of pain in back and of continued soreness in muscles in back of neck. Had tried various treatments for several years with no improvement. Operated on pyorrheic lesions surgically (radical) December 7, 1930. March 28, 1931, reported all symptoms disappeared and has had no return in two months. A gain of 6 pounds in weight. No other treatment during this time.

CASE 5. Woman, 41, sallow, dyspeptic, complaining of nausea, indigestion and pains around heart especially after eating. Had been treated for years, with no relief. Pyorrhea treated from September, 1930, to December, 1930, by subgingival curettage, massage, and local stimulants. Pyorrheic lesions completely healed, other symptoms disappeared and patient noticeably increased in weight. No other treatment to April 2, 1931.

These case records, to my mind, support the theory of pyorrhea as a focus of infection. I could give many other similar case reports from my files, covering a period of the past five years, during which time I have devoted myself exclusively to this phase of dentistry.

There are two essentials in eliminating pyorrheic infection. The first is correct diagnosis and the second is correct treatment. All of us fail at times in both essentials. This is not, however, an argument against pyorrhea as a focus of infection. Further we may correctly diagnose and treat a case and the general condition remain unchanged. There may be contributing or secondary foci. Again if we leave a portion of the infection after the treatment or the extraction of the teeth, the condition would not clear up. And x-rays reveal, in residual infection, that all too often we do just that.

I would like to call attention just here to the fallacy that the extraction of a pyorrheic tooth always cures the condition. To extract a tooth in pyorrhea only means that we have established better drainage—the seat of the trouble being in the bone socket and the adjacent soft tissues. This improved drainage does sometimes eliminate—but not always. The proper procedure is, of course, to thoroughly remove all the diseased area by curettage after extraction—and this does not always effect a cure, because the primary cause of the breaking down of the tissues has not necessarily been removed.

In support of these statements, I offer first the fact that in cases where pyorrhea was undoubtedly the cause of systemic disturbances, the complete removal of all pyorrheic teeth, in some instances followed by thorough curettage, the trouble persists. Again many wearers of artificial teeth—or dentures—have to have these dentures remade time after time, due to the absorption of the alveolar ridge. The denture is dependent upon perfect adaptation to the ridge, and the appliance does not change. Therefore a looseness can mean but one thing—the absorption of the ridge. I should like to quote from an English writer in a recent issue of one of our journals: "Pyorrhea has become appallingly common and is affecting quite young persons. I have seen a girl of 17, with nine otherwise perfect teeth badly involved. Her dentist had advised extraction, because in his opinion pyorrhea was incurable. This displayed an ignorance of fundamental facts. The teeth were being sacrificed when they had nothing to do with the trouble, which was in the alveolus." Again from the same writer: "... Unfortunately such absorptions will continue and it will be impossible to make satisfactory dentures. I have had a case, which after extraction to supposedly cure pyorrhea, require the denture remodelling 12 times in a few years." These and many other cases known to all dentists should be convincing evidence that extraction is not the remedy for pyorrhea. If we wish to remove the infection surgically, surely this can be done as well and better without the loss of the tooth.

The earliest recognition of pyorrhea is possible only by a full mouth x-ray of all the teeth and their supporting tissues. No examination in dentistry is complete without this. Those who have followed this part of a dental examination, I am sure will support this statement. Those who have not are simply not aware of its advantages. The microscope is also a valuable aid, especially in such diseases as Vincent's angina. I assume, of course, that in the use of these two aids to diagnosis one is not only familiar with the technique, but is also able to correctly interpret the findings.

A few simple observations by the physician would in most cases be sufficient in detecting the more pronounced cases of

pyorrhea, and aid in sending them to the dentist for confirmation.

1. The color of the gum should be pink—any discoloration is suspicious.
2. The texture of the gum should be firm and hard—any softness or sponginess is indicative.
3. The crest of the gum should be at the enamel of the tooth, or at the neck or constricted portion—any recession is suspicious.
4. Gums that bleed freely upon pressure are suspicious—and this should be ascertained by pressure and not by statement of patient.
5. Any exudate by pressure on the gums—and often you will not get this except by persistent and hard pressure, well directed.
6. Accumulation of calcium or food debris around or between the teeth—this is almost conclusive evidence.
7. Teeth out of line or mal-occluded.
8. Loose teeth.
9. Pockets. A tooth has a fibrous attachment at the neck or more properly about 1 mm. below, therefore a probe passed along the root will in most cases reveal the pocket.

The foregoing routine examination by physicians will detect the majority of the cases of pyorrhea—and the time required should not be over 10 minutes. But, a casual glance in the mouth will not do as an examination for pyorrhea. While the evidence from the above examination is always positive, absence of all of the above diagnostic symptoms does not argue that the case is negative. The x-ray, alone, will give us the final information, in case all other evidence is negative.

In conclusion may I not say, that while medicine and dentistry are separate professions and neither has any desire to infringe upon the other, yet in light of present knowledge, is not the close coöperation between the two most desirable in the best interest of the patient? The public looks to you for care and advice of their bodies, and upon your advice much depends. Yours is a great responsibility. We are dentists, and our duty is the preservation of the teeth and their supporting structures in a state of

health. If conditions in our field are a source of trouble and danger to your work, will you not permit us to help you?; and if so, will you not aid us in the early detection of these maladies, especially those that have been considered incurable—in order that we may get them before they are incurable?

And will you not help us to eliminate the infection without the necessity of the loss of the teeth—when this is possible? This means a routine, adequate examination of the mouth by the physician.

DENTISTRY AS A SPECIALTY OF MEDICINE

(Editorial in *The Canadian Med. Asso. Jour.*, June, 1931)

Since we developed our present enthusiasm for focal infections, many a toothless mouth has lisped its disappointment that acceptance of a physician's advice and an exodontist's services has not brought the anticipated relief.

In the Old Land, the dental student must take lectures in medicine and surgery through two academic terms and receive clinical instruction in these subjects at a recognized hospital over four academic terms. In Belgium and Italy, a full course in Medicine is required, and in these countries dentistry is regarded as a medical specialty.

Dr. Alfred Owre, Dean of Dentistry at Columbia University, takes a very definite stand: "The mouth is too vital a part of the bodily economy to be relegated for either diagnosis or prescribed treatment to anyone less thoroughly prepared for either than a specialist in medicine."

APICAL INFECTION OF THE TEETH

(Editorial Comments in *The Canadian Med. Asso. Jour.*, July 1931)

Dentists and medical men are familiar with the appearance in skiagrams of small areas of rarefaction that are often to be found at the apices of the teeth. Rather curiously, considering what they have proved to be, teeth so affected are not painful, and, in fact, may not be under particular suspicion. When such teeth are extracted a small gelatinous "drop" is found at the apex, variously designated as "granuloma" or "abscess."

Arthur Bulleid (*British Dental Journal*, 1931, Jan. 16 *et. seq.*) examined 80 teeth which showed granulomata radiologically and were extracted. Taking great care in his technique to avoid extraneous contamination, he made cultures from the granulomata, both aerobically and anaerobically. It is important that anaerobic methods should be employed, for in eight cases granulomata which gave no growth aerobically gave one under anaerobic conditions. From all the 80 cases streptococci were isolated, usually alone, but sometimes with other organisms. This observer also brings out the interesting fact that granulomata are relatively common in pulpless teeth that have had their

root canals filled. Is there cause and effect here? Further work is needed, but a definite contribution to our knowledge has been made.

SPECIALISTS MAY BE SO CERTIFIED IN MICHIGAN

(Editorial, *Colorado Medicine*, July 1931)

An amendment to a bill prepared for introduction in the Legislature of Michigan will empower the licensing board to adopt the minimum requirements that must be met by the doctor who seeks to become a specialist. Having met that requirement, the board may issue a certificate attesting the applicant's qualifications as a specialist. The section is not a mandatory one, nor is it a compulsory enactment. It merely provides that he who desires such certification may obtain it when he meets the adopted requirements. There is no penalty for not possessing such a certification.

LOOKING BACKWARD: THIS JOURNAL TWENTY-FIVE YEARS AGO

(Editorial, *New York State Journal Medicine*, July 1, 1931)

Personal Publicity: The following editorial on personal publicity which appeared in this Journal of July 1906, could well have been written today:

"A physician in Louisiana has brought suit against a newspaper which published the report of a case which, in newspaper parlance, was 'unique.' It set forth that many physicians had treated this patient's hip trouble without success until the plaintiff, who was a close student of the methods of Professor Lorenz, took hold and effected a cure. The story was a straightforward statement which had been given to the reporter by the grateful father of the patient, and was given with a feeling of gratitude and kindness towards the physician who had cured his child.

"The doctor brought action against the paper, and was decided against by the lower court. The Supreme Court, however, reversed the decision, and ruled that, while the simple matter of sentiment could not be considered, yet it was possible that the plaintiff had actually sustained damages by this publication. It is not necessary that a damaging statement shall be made in terms of defamation and slander. Words of apparent praise may often have a damaging effect. The physician in this case, the court held, had objected to having his name paraded before the public in the same manner as is practiced by quacks; and knowing that he desired that his professional work should not be advertised in this manner, the paper in question printed an adulatory statement concerning his treatment of a certain case in which the real facts were overdrawn, and in which the impression was presented to his professional colleagues that he had represented to the family that the case was 'unique' and that his cure was extraordinary, when as a matter of fact neither of these was true. He was justified in claiming damages for having the paper represent him as pursuing the policy of the quack."

Clinical Significance and Treatment of Cardiac Irregularities*

W. BERNARD KINLAW, M.D., F.A.C.P., Rocky Mount, N. C.
Medical Service, Park View Hospital

During the classic period of Greek medicine, between 460 and 136 B. C., cardiac irregularities were elaborately studied with the water-clock, and since that time the study of the various arrhythmias has been of absorbing interest. Since Einthoven invented the electrocardiograph in 1904, however, more information in regard to the etiology and significance of these various arrhythmias has been obtained than in all prior time. Today, with the great number of scientific studies which have been done at the bedside and in the physiological laboratories with the electrocardiograph, polygraph, x-ray and microscope, we are able to accurately diagnose most of the cardiac arrhythmias by clinical examination and observation alone. The electrocardiogram shows so clearly the various types of irregularities, including the structure at fault and the origin of an ectopic beat, that I have prepared from our files at the Park View Hospital some slides showing each type of irregularity. This is not a study of electrocardiograms, and to those of you not familiar with the various *P*, *Q*, *R*, *S*, and *T* waves (which are only names given to these different peaks; the letter itself having no meaning) I will ask you for the time being to just remember that the *P* wave is made by the auricle and the *R* and *T* waves made by the ventricular contractions. The *P-R* intervals should not exceed $1/5$ of a second and the perpendicular lines are time-lines with $1/5$ second between each two lines.

The irregular pulse is an abnormality of function and the underlying cause must be searched for and if possible removed; therefore, the treatment and the significance will depend in a large measure upon the condition of the patient having this disorder. For example, the patient with a toxic goitre or pneumonia developing auricular fibrillation will be looked upon differently than will the

man of 60 seen with fibrillation associated with signs of failing compensation. It is not uncommon to find two types of irregularity in the same patient, as the case of fibrillation associated with premature ventricular extrasystoles; however, the extrasystoles do not seem to make the prognosis more serious.

Sinu-tachycardia and bradycardia, although not necessarily characterized by an irregular heart action or pulse, are usually classified under the head of cardiac arrhythmias. This simple form of tachycardia is often hard to explain and the condition itself needs no treatment; however, the importance of trying to locate the cause for the increase in pulse rate cannot be stressed too strongly. A metabolism test, dental x-ray, or careful auscultation at both apices after expiratory cough, may locate the etiology. Much digitalis is harmfully wasted on this condition before a painstaking examination is made. It starts and ceases gradually, in contrast to true paroxysmal tachycardia which is sudden in onset and ending.

A pulse rate of 60 per minute in a patient previously noted to have a rate of 70 to 80 may be termed bradycardia of the first degree. We usually have in mind a pulse of 40 to 50 when we speak of simple bradycardia. It may be due to vagal stimulation from eyes, sinuses, gastrointestinal upset, or many another cause, or we may have a bradycardia with an irregular slow pulse of 28 to 38 beats per minute. This was shown by Hyman¹ as a third-degree bradycardia due to toxic depression of the sinu-auricular node following influenza, and as independent ventricular rhythm occurs at this rate, it may be very easily confused at the bedside with partial and complete heart-block associated with extrasystoles. A diagnosis of the true condition is important, and the electrocardiogram is very helpful in the consideration of bradycardia. The only treatment

*Presented to the Section on Practice of Medicine of the Medical Society of the State of North Carolina meeting at Durham, April 20th, 21st and 22nd, 1931.

is to locate and remove the cause if possible. The slow rate itself probably causes no trouble and in some cases may be helpful. I will not mention syphilis with each condition but take for granted that each heart case will have a Wasserman examination of the blood and syphilis treated if present.

Some irritable focus in the auricular or ventricular myocardium may cause a sudden acceleration of the heart rate to about 160 per minute, and is recognized as auricular or ventricular paroxysmal tachycardia. The auricular type is 25 times more common than the ventricular. These are very interesting conditions and may cause considerable alarm to the patient, as well as much worry to the physician. These cases are usually seen in patients over 20 years—more common in men probably in a large series—and the frequency of attacks and length varies in different individuals but seems rather constant in the person having the attack. It may last a long time with recovery. Willius² reported a case lasting 42 days with ventricular rate around 200 per minute with recovery. In a series by Willius³ 40 per cent had no organic lesion. Those with a definite heart lesion presented many types, the most common association being with exophthalmic goitre. The clinical significance of these two conditions is entirely different. Paroxysms arising in the auricle—*A-V*—node are often due to a disturbance in the nervous mechanism instead of disease of the muscle; whereas the ventricular tachycardia is usually due to disease of the coronary arteries and is always considered as evidence of cardiac disease. The two tracings show both conditions very well; in the ventricular type it shows the sudden onset and stopping of the attack. Bancroft⁴ and others showed in tachycardia that the systolic output is lowered from 75.5 c.c. to 12.9 c.c. and the output per minute lowered to 1/3 normal.

There are a great many different treatments for stopping auricular paroxysmal tachycardia, most of them depending upon reflex stimulation of the vagus nerve. Hard pressure on the vagus midway of the carotid artery on either side of the neck, pressure on the eyeballs to the point of pain, with eyes closed, induced vomiting, and drinking large amounts of cold water are a few of the methods often successful. Digitalis, morphine, strophanthin and—during the past

few years—quinidine, have had users. I am partial to quinidine and give 6 grains every 2 hours (after giving 3 grains to test for susceptibility) and it may act very well in 6-grain doses daily to prevent attacks. This is particularly true of the ventricular paroxysmal tachycardia.

Extrasystoles or premature contractions should not be termed dropped beats. The beat may miss at the wrist, but the term is confusing as drop beats actually occur in sinu-auricular and other forms of heart-block and have a very different significance.

There is much argument in the literature as to the importance attached to both auricular and ventricular extrasystoles. The ventricular occur about 10 times as often as the auricular and are the ones that the patient complains of as the "flop" or "turnover." There is apparently definite proof that they may be due to a temporary toxic condition from tobacco, digestive disturbances, or a nervous or fatigued condition or associated with various dissipations. They frequently occur with organic heart disease, and rest and digitalis, by improving the organic condition, often take away the extrasystoles; however, digitalis often brings them on, especially the type called coupling, which, as seen here in the slide, will disappear after digitalis is stopped.

The frequency of the disorder apparently has no bearing on the significance unless it happens to make the patient more nervous.

I wrote a letter to the medical directors of several of the largest old line life insurance companies asking for their action in regard to granting insurance to applicants found physically normal in every way except for extrasystoles.

From their answers they are apparently taking a safe routine course of accepting applicants. They all seem to feel that extrasystoles are of very little significance in young people; between 40 and 50 they may rate the applicant up a little in premium, especially if the extrasystoles do not disappear after exercise, and after 50 years they want an electrocardiogram if possible. One company refuses to accept applicants with extrasystoles. Another states that their death rate has been a little higher in applicants that had extrasystoles. Dr. Paul White ran a careful series of cases that did not show this to be the case, and, as the life insurance

examiner at times may be in greater haste than Dr. White. I believe more cases of early heart-block, or slow fibrillation, would be called extrasystoles by one not using the great care in examination that Dr. White does. All of his cases were also checked with electrocardiograms.

I think then that we would probably be safe to handle these cases by giving them a real searching general examination, inquire into their habits of smoking, drinking and exercise (women included), then an exercise test and a careful history in regard to what the heart will stand. If convenient, or if any doubt arises, have an electrocardiogram to learn the condition of the heart muscle and, if everything is found normal, reassure the patient and tell him about MacKenzie's patient—a man of 69 years who had extrasystoles for 50 years and was still in good physical condition. Have the patient come in for check-up examination at intervals. If he is worried, bromide or quinidine may stop them and as a rule more outdoor exercise is of considerable value.

Absolute arrhythmia is the old term for auricular fibrillation and signifies just what is present clinically. An irregular irregularity increased by mental or physical exertion that may be paroxysmal or permanent and is usually considered as evidence of definite cardiac disease and due to coronary sclerosis, rheumatic or thyroid heart disease. I am sure we have all seen cases of paroxysmal auricular fibrillation return to normal rhythm immediately after a few doses of quinidine and no further attack noted, in cases in which it was impossible to demonstrate evidence of organic heart disease. Willius⁵ states, however, that he has never encountered auricular fibrillation without organic heart disease. Cases have been known to continue for 20 to 30 years, but when associated with decompensation the condition is usually considered the beginning of the end.

If the ventricular rate can be slowed and kept slow, with care the outlook may be good for many more years of useful life, as the danger does not seem to be in the fibrillating auricle but in the rapid ventricular action. As in the slide shown here, the rate may remain at 60, and is often hard to differentiate by examination from extrasystoles or

possibly varying grades of heart-block. Often, especially in the hyperthyroid cases, the ventricular rate in fibrillation may range around 120 to 160, and it is quite difficult to determine the irregularity without careful auscultation over the heart. (Hard pressure in the neck over the vagus may slow the rate enough to make the diagnosis certain.) If the fibrillation began after the onset of the hyperthyroid condition the outlook is good from the cardiac standpoint after thyroidectomy.

With the rapid ventricular rate much can be accomplished by absolute bed rest, full digitalization and Lugol's solution, just prior to operation.

Auricular flutter, which is shown in the tracing, can give an irregular pulse by presenting varying grades of heart-block and, as the condition is explained by Lewis and his co-workers as a circus movement in the right auricle, the same mechanism is behind flutter as in fibrillation but less pronounced in flutter. Its rate is usually around 150 with the auricular rate twice the ventricular rate. Two-to-1 or 3-to-1 heart-block is usually present. It is practically always associated with organic heart disease, and differing from fibrillation in that exercise has no effect on the rate.

The treatment of fibrillation and flutter in congestive failure cases has given digitalis and the physician prescribing it in proper dosage great reputations. There is nothing much more beautiful in medicine than the miraculous disappearance of fibrillation with congestive failure under the proper administration of digitalis. Heart-block is already present in fibrillation and the idea is to give enough digitalis to increase the block and thereby slow the ventricular beats. Block is always easily increased by digitalis and the pulse may be quickly slowed from 150 to 70 or 80 per minute. By slowing the ventricular rate 75 beats per minute it saves the heart 108,000 ventricular contractions a day.

We may digitalize the patient in one day if the case is urgent or use the slow method and take a week to saturate the patient. It usually requires 1½ grains of the powdered leaf (I prefer a standard leaf to the tincture as I feel more certain of the dose that is given) or 15 minims of tincture for each

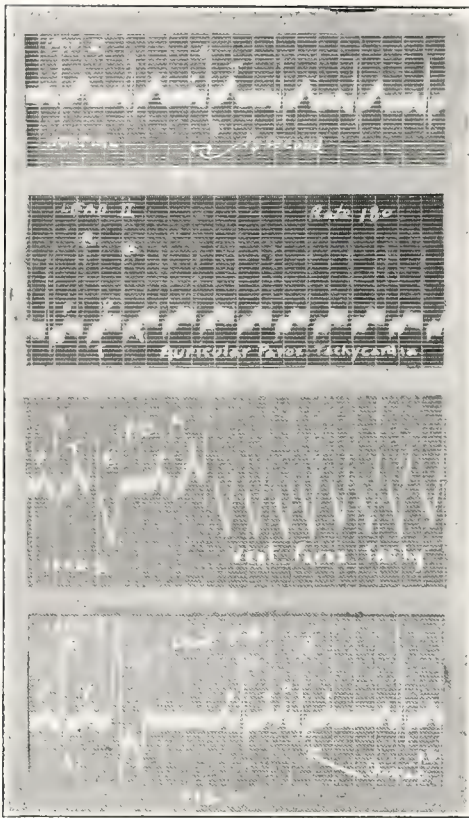


FIG. 1. A normal electrocardiogram. Note that the *P-R-T* are all upright and that the *P-R* interval is less than one-fifth second. Leads 1. and 3. not shown.

FIG. 2. A Case of Paroxysmal Auricular Tachycardia. A rapid, regular rate of 180 per min. The tracing did not catch the sudden onset and ending of the attack.

FIG. 3. Lead 2 of a case of Ventricular Paroxysmal Tachycardia. *PB* is a Vent. Premature Beat which is followed by a normal beat (*PRT*) and then the tachycardia suddenly begins; the contractions having the same appearance as the premature beat. Patient had abscessed teeth and no free HCL. Quinidine stopped the attacks and 6 gr. daily has prevented further attacks. Teeth removed and he takes acid.

FIG. 4. Shows both the Ventricular and Auricular type of premature beats. Note that the Auricular is preceded by a *P* wave and has nearly a normal shape. Two years after this tracing patient has normal rhythm and no abnormal heart findings.

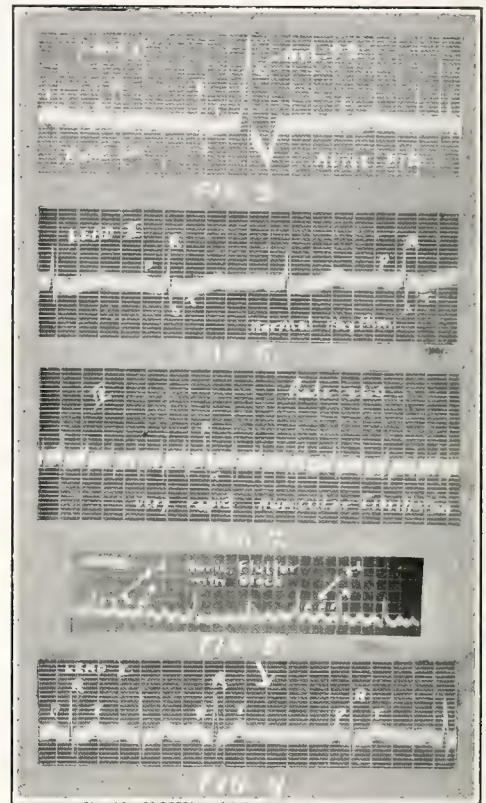


FIG. 5. Auricular Fibrillation (ffff). Note the absence of *P* waves and the irregular rate. The rate is slow (60 per min.) and complicated by Vent. Premature Beats.

FIG. 6. Same case as FIG. 5. after taking quinidine and digitalis. Rate is regular. *PR* interval more than one-fifth sec. and the *T* waves inverted due to digitalis. Patient 72 years and still active. Takes 1½ gr. digitalis and 6 gr. quinidine daily past three years.

FIG. 7. Very rapid Auricular Fibrillation. A toxic thyroid case. Had marked decompensation. Died five hours after admission. Note low *R* waves. Leads 1 and 3 were the same.

FIG. 8. Auricular Flutter. The irregularity of pulse due to the varying 3:1 and 4:1 block.

FIG. 9. Sinu-auricular block. Note the complete absence of the *PRT* complex. Examination two years later showed normal tracing. Compare with FIG. 10 where the auricle (*P*) contracts but the impulse is blocked and there is no *R* (ventricle) wave.

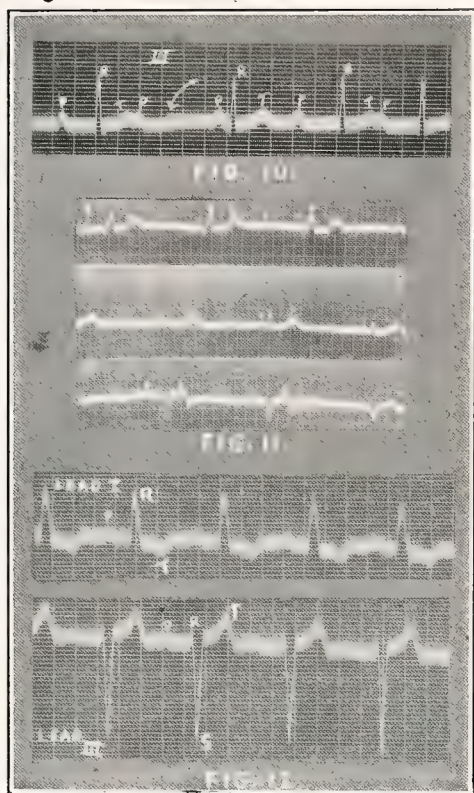


FIG. 10. Irregularity here due to early heart block. Note the long PR interval and occasional dropped beat. This came on during a stormy recovery from a ruptured appendix in a boy 19 years old. Getting along very well two years later but PR intervals still a little increased. Working, with no symptoms.

FIG. 11. Rate 30, regular. Note three P waves to each R and the R waves are low and abnormally wide indicating also an intra-ventricular block.

FIG. 12. Right Bundle Branch Block (new nomenclature is Left). The PR interval is also long. Had failing compensation when tracing made. Rate 70 and regular. Stout man, and diagnosis could not have been made without electrocardiogram. Had a heart attack and died two months after this tracing made.

inated during the week. It is rarely necessary to give digitalis intravenously. Some physicians prefer to give drachm doses. It would require $3\frac{3}{4}$ drachms and the patient should be seen before each dose is given.

If the fibrillation is not stopped by digitalis we may give quinidine sulphate with much benefit in the majority of cases. After the 3-grain initial dose to test for any toxic effect, 6 grains every 2 hours for 5 days may be given each day. It seems safe to continue this way for a week unless fibrillation stops earlier. An occasional reported death from quinidine is certainly no contraindication to such a useful drug. Many heart patients die suddenly who have not had quinidine.

One important fact to remember is the daily dose of $1\frac{1}{2}$ grains of digitalis or 6 grains of quinidine to help prevent further attacks. The treatment of flutter is the same as for fibrillation.

In the few minutes left at my disposal I want to briefly mention and show a slide of the heart tracing in each form of heart-block. Irregularities are produced by heart-block in that beats are dropped completely as is seen in the sinu-auricular block which is usually due to over stimulation of the vagus—due to digitalis or other causes and is not considered serious and requires no treatment except to try to remove the cause.

The auriculo-ventricular block is more serious, due to a blockage of the impulse from auricle to ventricle and varying in degree from only a slow conduction time with no dropped beats—shown here in the tracing by a long P-R interval (should not exceed $\frac{1}{5}$ second) to a complete heart-block with the ventricles beating at a rate of 25 to 30 per minute.

Digitalis is nearly always the cause of the lesser grades and must be carefully inquired about; however, as in a case shown here, a young boy after a stormy siege with a perforated appendix developed a definite A-V block.

In diphtheria complete block always ends in death within one to nine days. The significance of complete A-V block is that it is nearly always due to arteriosclerosis, possibly syphilis (look for it and hope for it) or rheumatic myocardial infection. Therefore, the treatment is to treat the arterios-

10 pounds of weight. Added to this calculation must be enough to take care of approximately $1\frac{1}{2}$ grains daily that is excreted. Thus a patient of 150 pounds will require $1\frac{1}{2}$ grains (or 15 minims) three times daily for seven days and one extra dose of $1\frac{1}{2}$ grains. This allows $10\frac{1}{2}$ grains that is elim-

clerosis (whatever that treatment is), which we all know is unsatisfactory.

Bundle-branch and intraventricular block are to be accurately diagnosed by the electrocardiogram and the prognosis in bundle-branch block is always serious. The patient usually dies within one to three years after the diagnosis is made. In the slide shown the patient lived two months.

King⁶ reports some cases that were diagnosed by physical signs, but where such a prognosis is to be given as in this condition it should be proven by electrocardiogram.

Where the arborization fibers are blocked (intraventricular block) the prognosis is better and the patient may work comfortably for years. In high-grade block associated with Adams-Stokes syndrome, some drug that will depress the vagus or stimulate the sympathetic is indicated. Some of these are adrenaline, atropine, caffeine and ammonia. Barium chloride, in $\frac{1}{2}$ grain doses every 4 hours, is a valuable aid in stimulating ventricular activity and may be given over a long period of time. It may cause toxic symptoms; yet in one case (Herrmann & Ashman⁷) in which 20 grains were given by mouth by mistake, the only symptoms were nausea, vomiting and diarrhea. Thyroid in 1- to 6-grain doses is worthy of trial to help improve the ventricular rate.

Probably the most significant thing about all heart irregularities, in this fast age when so many of our people are dying of heart disease, is that it is a clear indication to the patient and physician that something serious may be beginning or is present; and after a careful study of the disease that has the patient and the patient that has the disease, the facts should be laid on the board and the patient induced to place confidence in what you tell him. Early diagnosis and proper treatment is what we are all striving for. Ill-directed treatment (A patient with auricular fibrillation from treatment of extrasystoles with digitalis was cured by removing three abscessed teeth.) must be guarded against because we have learned by experience and the experience of our teachers that the heart muscle is a powerful thing and will stand by a long time if we will try to give it the amount of rest and care that it deserves.

Bibliography

1. HYMANS *Asch. Internal Med.* 1927, XL, Page 120.
2. WILLIUS, F. A.: *Am. Heart Jr.*, Dec. 1927, Vol. iii, Page 233.
3. WILLIUS, F. A.: *Am. Heart Jr.*, 1927, Vol. iii, Page 233.
4. BANCROFT, J. B.: *Heart* 1921, Vol. ix, Page 7.
5. WILLIUS, F. A.: *Am. Heart Jr.*, 1927, Vol. iii, Page 26.
6. KING: *American Heart Jr.*, June 1928, Vol. iii, No. 5, Page 505.
7. HERRMANN & ASHMAN, *American Heart Jr.*, 1926, Vol. i, Page 269.

THE EFFECT OF PITUITARY EXTRACT UPON THE TONUS OF THE KIDNEY PELVIS AND URETER AND ITS APPLICATION IN THE THERAPEUTICS OF PYELITIS, ETC.

(Draper, W. B.; Darley, W., and Harvey, J. L., Denver, in *The Journal of Urology*, July 1931)

In a case of pyelitis marked relief of pain followed the exhibition of pituitary extract 5 c.c., q. 4h. as necessary. In this respect the extract was much more efficient than $\frac{1}{6}$ gr. morphine. It must be admitted that the therapeutic value of pituitary extract in pyelitis and related urinary conditions is an open question. The results, however, reported in this case of pyelitis with bilateral hydronephrosis and hydroureter are suggestive. It is possible that the clinical improvement noted was due in part to certain changes in the composition of the urine as brought about by pituitary administration. Further investigation into the therapeutic value of pituitary extract as suggested is indicated.

CASTOR OIL FOR HEART PAINS

(Bishop, L. F., New York, in *Jour. Oklahoma State Med. Asso.*, July 1931)

Next to nitroglycerine we have had a great deal of success with castor oil, particularly in the hypertensive group of patients suffering with cardiac pain. Some of these are given serial doses of castor oil, every other day for three doses and then they are taught to use it at least once a month. It has been our experience that they are very often free from pain for some time following the use of this remedy.

THEOBROMINE GOOD TOO

Another drug which seems to be of very definite benefit in the relief of cardiac pain is theobromine. We use the five grain compressed tablet (theobromine and sod. salicylate, Merck), with definite instructions that it ought to be taken after meals, suspended as fully as possible in a half a glass of water. The method of taking this is as important as the drug itself and it seems to us that many people who fail to get results with theobromine have not been instructed in the use of it. This drug may produce great discomfort if taken in solid form.

Progress Made in Prostatic Surgery*

A. J. CROWELL, M.D., Charlotte, N. C.
The Crowell Clinic

During the last 30 years great progress has been made in the management of prostatics and in prostatic surgery. More attention has been given to the preparation of the patient for this operation than ever before and thus a more definite knowledge of the patient's ability to undergo the different operative procedures.

The estimation of the 'phthalein elimination and nitrogenous retention, as you know, are great aids in determining the time for operation. As a result, the mortality following prostatectomy, by whatever method of approach, has been greatly reduced. Thirty years ago it was about 25 to 30 per cent. Today it is about 3. That obtained by the most modern methods of prostatic resection is much below this average. The relief of the symptoms produced by vesical neck obstruction and prolongation of life is the object to be attained.

Probably the greatest progress made for the relief of these symptoms during the last five years has been in the different methods of removing the obstruction by operations through the urethra. The urologists have been seeking for a less hazardous procedure for the relief of these patients, and as a result many instruments have been designed for removal of tissue through the urethra. They are designed largely to remove median lobes and prostatic bars, but can be used to remove the large adenomatous hypertrophy as well as that of the malignant gland.

Nearly 100 years ago, in 1836 to be exact, Guthrie devised a concealed blade in a catheter to incise the vesical neck. Mercier in 1839 devised a prostatic incisor which he employed successfully in a number of cases. Civiale devised a similar, though less successful, instrument for this purpose about the same time. The original idea undoubtedly was Guthrie's.

Bottini's prostatic cautery was an improvement on the Mercier incisor and was designed to control hemorrhage and relieve vesical neck obstruction. Following this the

most significant progress made up to that time was by Young in devising his ingenious punch. As a result of this idea similar instruments have been designed by Braasch, McCarthy, Caulk, Folsom and others, most of whom advocate excision by means of cautery in order to control hemorrhage. Beer suggested the use of the high-frequency current to remove the obstructing tissue. This plan of procedure has been carried out by Goldschmidt, Randall, Stevens, Mahoney and others, but it remained for Collings, insofar as I know, to advocate the use of a high-frequency cutting current through a McCarthy pan-endoscope for the relief of this condition. Stern took advantage of this idea and designed an operating cystoscope whereby the obstruction is removed under vision, but it has no definite control of hemorrhage. This instrument has been improved upon by my associate, Dr. Theodore M. Davis, whereby a much larger piece of tissue can be removed at a time and the hemorrhage thoroughly controlled by means of a special electro-magnetic switch which permits instantaneous change from the cutting to the coagulating current and *vice versa*. Dr. Frederick E. B. Folley, of St. Paul, Minn., has lately designed a cautery whereby he can remove vesical neck obstructions by means of a cutting-current electrode, removing large lobes *en masse* and then slice them up with the same cutting wire and remove the tissue by means of evacuators. This work, so far, I understand has been largely experimental and has not been practiced extensively clinically. We feel that the plan of Stern and of Davis of removing the tissue as it is incised the better method. It requires less manipulation, produces a minimum of trauma, and gives complete control of hemorrhage. This work is done under sacral and transcaudal anesthesia, which lasts from one and one-half to three hours and gives ample time to complete the operation.

In carcinoma and fibrous obstructions this

*Presented by Invitation to the Chattanooga County (Tenn.) Medical Society, May 28th, 1931.

operation is ideal. No one believes that more than 1 per cent of the cases of malignancy are cured by surgery. As a rule they do not fall into the hands of the doctor until the disease has progressed so far that complete enucleation is impossible. If seen early, the extensive operation necessary to remove all the malignant tissue, as advised by Young, and the danger of complete incontinence following the operation is so great, that we feel the results do not justify the operation.

I am convinced that the rational way to handle these cases is to remove the obstruction, give comfort to the patient and hold the malady in abeyance by means of radium and deep x-ray therapy. The obstruction can easily be removed by prostatic resection, relieving the symptoms and making life bearable. I have seen a patient who had bone metastases wonderfully relieved of his symptoms and increased 28 pounds in weight in six months time following this operation. This patient returned to his home, more than 250 miles away, five days after the operation and now says he does not have an ache or pain. His tenesmus before operation was severe and he had to void about every half-hour. Radium and x-rays were used in this case after the obstruction was removed.

The small fibrous gland is difficult to remove either suprapubically or perineally, but it is an ideal condition for this operation. The large adenomatous lateral lobes are the most difficult to remove by the method, but the obstructing portion can be resected and the bladder drained. This is all that is necessary and largely does away with complications, as epididymitis, incontinence, etc., and does not diminish the patient's sexual power. The normal physiological function of the gland is not in the least inhibited. The average hospitalization following the operation is about five days and the preoperative care is greatly simplified as compared with that necessary for prostatectomy. The decompression can easily be carried out after operation.

The etiology of prostatic hypertrophy has not been established definitely but evidence seems to justify the opinion that it is a hyperplasia in the non-malignant enlargements.

Any condition which produces such serious effects upon the general physical well-

being of the individual should interest the entire medical profession and stimulate a desire on their part to prevent their patients from entering upon the period of marked urinary obstruction.

We believe that much may be accomplished by the early recognition and proper treatment of prostatic infection. We should stress the importance of an early recognition of vesical neck obstruction and their proper management. Undue frequency of urination with hesitancy and diminished force, accompanied with a sensation of inability to completely empty the bladder, in men beyond 50 years of age, usually means hypertrophy, and a careful investigation as to this condition should be made. Residual urine usually means hypertrophy but its absence does not necessarily mean that there is no prostatic obstruction. Frequently we do not have residual urine in malignancy of the prostate, the most hazardous form of prostatic obstruction, but when the symptoms named above are present, a thorough investigation of the whole urinary tract is imperative. We should not rely upon digital palpation to determine the presence of prostatic obstruction but proceed at once to inspect the vesical neck cystoscopically and ascertain definitely the cause of the symptoms before advanced prostatism has supervened. The earlier the diagnosis is made and treatment instituted the less the damage done.

The recent and most modern plan of resecting vesical neck obstructions has transformed a major operation into a minor one insofar as suffering and fatality are concerned, as will be exemplified in the moving picture to follow. This is the work of my associate, Dr. Davis, and I will ask that he be allowed to present this phase of the paper at this time and show the cystoscope used in this operation.

The correction of thyroid or pituitary insufficiency (Fulkerson, L. L., New York, in *New York State Jour. of Med.*, July 15th, 1931) through weight reduction, where obesity exists; of hyperthyroidism by medical treatment or by operation; the correction of a hypothyroidism by the use of the gland substance, or the correction of diet deficiencies, especially through the use of wheat germ with its *vitamine E* may overcome a functional sterility.

Some Observations on the So-Called Functional Gastrointestinal Disturbances*

FREDERICK R. TAYLOR, M.D., High Point, N. C.

Routine office practice contains an important number of patients who complain of a great variety of symptoms which they refer to the gastrointestinal tract, which may be grouped under the blanket term, indigestion, for which no cause has been found. Often such patients have consulted a number of physicians without benefit. They frequently offer very difficult problems, for many of them talk endlessly about their complaints and seem to enjoy poor health. What shall we do with these patients?

Usually, before we begin to take a systematic history, we must listen to a long story. This takes up a lot of time, but is necessary for several reasons. First, it enables the physician to size up his patient's make-up to some degree; second, the mental catharsis is a real help to the patient; third, if the doctor does not listen to his story, the patient will probably feel that he is not interested in his case; and such a reaction is almost a guarantee of failure in the management of the case; and last, but not least, often some little detail may be volunteered that proves to be the key to the situation, which would not be brought to light by systematic questioning. We must not *endure* such a long story: we must *listen* to it, and store away in our minds details that may later serve as leads to developing a proper history.

When the patient has relieved his mental drive, we may begin a systematic history. We should note, from our preliminary conversation, whether the patient presents an orderly clear-cut story, which is the rule in organic gastrointestinal disease; or a disorderly rambling one full of insignificant details, which is usual in the so-called functional cases. *A careful history is the most important procedure in the investigation of a functional gastrointestinal disturbance.* This statement should be so obvious as to

be out of place here, but, unfortunately, experience teaches that the art of history-taking is woefully neglected, so it may be profitable to spend a few moments on this phase of the question.

We begin by trying to find the patient's chief symptom. Often the neurotic patient will have half a dozen chief symptoms, but we try to find out what is troubling him most at the time of examination.

Then we drop this point for a moment, and try to get the approximate time and method of onset of the patient's disease. For years, I would ask some such question as, "When and how did your trouble begin?" The answer would often be recorded, only to find later, that some other symptom had preceded the one given by months or years. Now it is my habit to inquire, "How long has it been since you considered yourself perfectly well?" Sometimes we will learn that the patient has never been perfectly well, but that is itself important. Then we can start from the very onset and build up an orderly history of the present illness. It is well to have some method in our history-taking, so we may consider in succession symptoms usually referable to the gastrointestinal, cardiorespiratory, nervous, and genitourinary systems, in order to adequately cover the ground. Symptoms referable to such structures as bones and muscles will usually be voluntarily described by the patient. However, *it is all-important that we do not mechanize our histories.* Our system of history-taking must be flexible, and we must be constantly on the alert to follow any lead, however slight, to its limit. A history that is merely a ritual is of little diagnostic value, whereas a really good history is the very corner-stone of medicine. A symptom often overlooked in questioning is *pain in the region of the heart*, yet it is a most important one, especially in the middle-aged and elderly.

*Presented to the Eighth District (N. C.) Medical Society, meeting at Winston-Salem, April 14th, 1931.

Having completed the history of the present illness, we consider the past history. Here, too, a certain system is essential. We must not accept without further inquiry *any* patient's statement that he has never been sick before in his life. It is almost never true, yet many patients make the statement perfectly honestly because they have momentarily forgotten some past illnesses. It is astonishing how such serious diseases as typhoid fever or pneumonia may be forgotten, until they are called to the patient's attention. Every man will have his own system of inquiry. I have a certain list of diseases in my mind that I inquire about in order, thus: typhoid fever, pneumonia, pleurisy, tuberculosis, scarlet fever, diphtheria, malaria, rheumatic fever, chorea, tonsillitis, influenza, measles, chicken-pox, whooping-cough, mumps, venereal diseases, operations, and injuries. It is also well to get a record of vaccinations against various diseases. Then I inquire if the patient has had any other diseases not mentioned, often suggesting meningitis, poliomyelitis, and others.

Next we make a detailed inquiry about the patient's habits. Does he eat balanced meals thrice daily in peace and quiet? What are his habits of drinking water, milk, coffee, tea and alcohol? How much tobacco does he use, and in what form? (We must not forget that the tobacco and alcohol habits of many women must be looked into!) Fresh air, exercise, sleep, occupational conditions and the sexual life must all be inquired about.

Next we come to the family history. I shall not elaborate on this, except to state that domestic troubles may be of the utmost importance in the pathogenesis of functional digestive disturbances, as will be shown later. Not only blood relatives, but often non-relatives who live in the same house should be considered, especially in connection with such conditions as tuberculosis.

This brings us to the physical examination. I shall not discuss the details of this, but merely suggest a few points, which, though obvious, are frequently neglected. A good light and as little noise as possible are essential. Jaundice is difficult to detect by artificial light. No physical examination can be properly made through the clothing, yet

it is disheartening to find how many persons have been to physicians who have violated this primary rule of physical diagnosis. Both patient and examiner must be in comfortable, unstrained positions. Percussion cannot be done properly with the wrists cramped. Most patients, including physicians, when they get on a table for an abdominal examination, will clasp their hands behind their heads. This seems to be the most natural posture, but it tenses the abdominal muscles to some degree and thus lessens the value of palpation, a difficult art at best. The patient's arms should be at his sides.

Just as in history-taking, an important symptom often overlooked is precordial pain, so in the physical examination the important procedures most often neglected are a rectal examination and, what we believe every physician should do, a simple rough test of vision with test type and astigmatic chart. If the patient wears glasses, the visual tests should be made with glasses on. Gross refractive errors will quickly be revealed, if not properly corrected. These rough tests, however, may be insufficient, and there are many patients whose vision will appear normal on such a superficial ocular examination who should be sent to the ophthalmologist for further study.

What about laboratory work? Of course a routine urinalysis, chemical and microscopic, is indispensable. A hemoglobin test is very simple, and is well to perform as a routine. Wassermanns are very often needed and should be made in all complex cases or where there is the slightest suspicion of syphilis. Other blood studies should be made as indicated. In some localities a routine stool examination is essential. It is always indicated by an eosinophilia or an anemia without obvious explanation. What about gastric analyses? Here I am quite unorthodox. In the average case, I consider them of little value. Alvarez has shown us conclusively that the normal variations of acidity are so great and so frequent that we cannot fix any definite standards. The patient's clinical picture is a better guide to acid or alkali therapy than the stomach tube.

Next to the history and physical examination, the most valuable information in gastrointestinal disturbances is to be gained from the x-ray, including fluoroscopy, plates of

the barium meal at various time intervals, cholecystography, etc. X-ray studies are quite indispensable in many cases. They are imperative in persons of the cancer age who suddenly develop gastrointestinal symptoms which do not yield promptly to simple measures.

Having made the necessary physical and laboratory investigations, we may find no evidence of organic disease at the site of local subjective symptoms. What, then, shall we do? It is important to remember that most gastrointestinal disturbances are due to remote causes. Sometimes these are in some part of the alimentary tract far from the site of the symptoms, much more often they are outside the alimentary tract entirely.

Within the alimentary tract I think especially of bad teeth, hemorrhoids and chronic appendicitis. Yes, I am old-fashioned enough to believe in the reality of chronic appendicitis, or, at least, chronic appendiceal irritation. Often it is not inflammatory, but due to kinks, adhesions, concretions, etc. The all-essential thing is that appendectomy cures some of these patients, who do not recover on other treatment.

Outside of the alimentary tract we may think of almost anything. Many have pointed out the importance of anginal attacks as the basis of certain obscure gastrointestinal phenomena. In my own experience, eyestrain has been a very potent factor in causing spastic constipation, pylorospasm, etc., and many of my patients have been cured by the ophthalmologist.

I have, however, left until last, perhaps the most important group of conditions of all, and that is, *psychic* causes. Ever since the classic experiments of Cannon on the effects of emotional disturbances on the gastric juice, and the equally classic work of Alvarez on the effects of similar disturbances on gastrointestinal motility, we have been accumulating a great mass of clinical evidence showing the tremendous effect of psychic states on the alimentary functions. Among other things, Alvarez has pointed out that the examination of a married woman is not complete without noting whether she wears her wedding ring or not, and if not, discovering why. Drugs and diet are of little avail in solving serious domestic problems. Similarly, Alvarez says with fine honesty

that he will not accept money from parents for the prolonged medical treatment of the digestive disorders of a daughter whose real trouble is a disappointment in love, which medicine cannot hope to cure. The treatment is rather to learn the psychic mechanism of these disorders and then explain it to the patients. Such an explanation is often in itself curative treatment. Only very recently a 48-yrs.-old man came into my office in the morning and asked for an appointment for an examination. I gave him one for that afternoon. However, like many neurotics, he could not leave without detailing at least a few of his symptoms at once. He complained of a variety of gastrointestinal symptoms and also precordial pain, without any typical anginal radiations or fear of death. Exercise did not produce attacks. A previous electrocardiogram had been negative. I happened to know that he had been having serious troubles, family and financial. His wife was suffering from pellagra with severe mental depression, and his finances had shared in the rack and ruin of the times. I expressed the hope that when he had his examination I would find no organic trouble, and told him a little of Alvarez's researches into the effects of emotional states, anxiety, etc., on the digestion. He had been unable to eat with satisfaction for months. He returned in the afternoon for his examination looking like a different man, and said he had eaten a huge dinner without an ache or pain. No organic trouble was found, and it was obvious that he had suffered from an anxiety neurosis and that our simple preliminary conversation had been the chief agent in relieving him by giving him an insight into the probable nature of his trouble. Such a man might easily be drugged into a protracted illness.

Often anxiety neuroses cause an exhausting insomnia, which severely affects the digestion. Here, too, psychotherapy is the chief agent of value. Prolonged warm baths are an invaluable adjunct here, and their value seems to be strangely overlooked by the medical profession as a whole, though thoroughly appreciated by psychiatrists. For many cases, the ordinary bathtub, without any elaborate hydrotherapeutic equipment, will work wonders. At times, sedatives may be needed temporarily to break a bad habit

of insomnia. I prefer bromides, codeine, or amytal. The last-named drug seems to be one of the least harmful of the barbituric acid group. Alvarez recommends adalin and dial. He makes one statement in his chapter on Diseases of the Stomach in *Oxford Medicine* against which I feel obliged to register a vigorous dissent. He writes, "So far as the writer knows, these drugs (adaline and dial) need not be feared. They are not toxic or dangerous in overdoses*, and they are not habit producing. The only trouble is that patients stop using them too soon, long before they should attempt to sleep without help." This may be largely true with regard to adalin, which is a brand of carbromal, a bromine derivative, but I regard all barbituric acid derivatives, of which dial is one, as dangerous in overdoses and as potentially habit-forming. Therefore, I look upon sedative drugs as weapons to be used with great discretion. In many cases, mental relief and a course of warm baths will make them unnecessary.

To sum up, several principles must be observed to properly manage the functional gastrointestinal patient:

1. We must give him attention and respect.
2. We must take a careful, searching history.
3. We must make a thorough physical examination.
4. The necessary laboratory work must be done. This will often include x-ray studies.
5. We must realize the enormous role played by psychic causes in these disorders, but we must recognize also that often seemingly insignificant and very remote physical defects supply the last straw. Of these, eyestrain is one of the most important.
6. We must always remain cognizant of the fact that psychic and organic factors are more often associated than not, though one group or the other may overwhelmingly preponderate in a given case, and we must attend to the entire condition, sifting the sig-

nificant from the insignificant. This requires a careful study of every patient.

7. Having ruled out, corrected, or established as insignificant, any physical defects, psychotherapy is the most important factor in treatment. This will usually be in the nature of an explanation to the patient of the way his symptoms are produced, which will show him the practicability of relaxing and of circumventing the untoward psychic factors. Occasionally, the physician may be able to help in producing a really satisfactory readjustment of some difficult life problem, but here, to the *n*th degree, especially if the problem be a domestic one, he must be as wise as the serpent and as harmless as the dove.

THE ALLEGED TOXIN OF BURNED SKIN

(Underhill, F. P. and Kapsinow, Robt., New Haven, Conn., in *The Jour. of Lab. and Clin. Med.*, May)

The statement that burned skin contains a toxin was not corroborated. The symptoms obtained by these investigators after intraperitoneal injection into guinea pigs of extracts of burned skin are explained by the inclusion of significant quantities of alcohol in the extracts. The blood of burned animals injected into guinea pigs exhibited symptoms and effects differing little from those obtained after similar injections of normal blood. It is suggested that the postulation of a "burn toxin" is unnecessary since the symptoms and effects of a burn may be adequately explained by the establishment of blood concentration to a degree incompatible with life. The large loss of fluid from the blood to the wounded area leads to the establishment of blood concentration.

TONSILLECTOMY IN CARRIERS OF STREPTOCOCCUS EPIDEMICUS

(Pilot, I., and Davis, D. J., Chicago, *Jour. of Infectious Diseases*, May)

Carriers of *Streptococcus epidemicus* can now readily be detected by the use of ascitic fluid added to blood agar. Tonsillectomy in carriers of *S. epidemicus* causes complete and rapid disappearance of this organism from the throat. Persons presenting sporadic cases of septic sore throat, otitis media and mastoiditis often become carriers of *S. epidemicus* in tonsillar crypts.

S. epidemicus may cause acute infection in tonsillectomized persons, but the organisms rapidly disappear during convalescence. *S. epidemicus* was found in the crypts of 13.8 per cent. of extirpated tonsils. All of the patients gave a history of sore throat. Many whose tonsils revealed *S. epidemicus* had cervical adenitis, arthritis or arthritic pains. The removal of the tonsils in these patients resulted in marked clinical improvement.

*Since this paper was written Dr. Alvarez has revised his chapter, and the statement that these drugs are not toxic or dangerous in overdoses has been deleted.

A Consideration of Lung Abscess From the Surgical Viewpoint*

JAMES W. GIBBON, M.D., Charlotte, N. C.

Suppurative diseases of the lung comprise pneumonitis, abscess and bronchiectasis. Pneumonitis is a diffuse suppurative inflammation without walling off or cavitation, and the formation of pus pockets. It is probably the precursor of abscess in some instances and is not of particular surgical interest. Abscess is a cavity filled with pus, lined by chronic granulation tissue and, when chronic, surrounded by a fibrous wall. Early in the disease there is more or less pneumonitis in the zone surrounding the cavity. The lung tissue in this zone is then boggy, edematous and inflamed. Particular mention will be made of this fact in discussing the treatment of abscess. Late in the disease there is dilatation of the bronchi surrounding the abscess cavity. For the sake of brevity, pulmonary abscess only will be here discussed.

Abscess may occur at any age. In Clerf and Flick's series of 172 cases, the ages ranged from 1½ to 66 years. The average age is between 30 and 40 years. Abscess is polymicrobial and often spirochetes and fusiform bacilli are found. Any organism found in the oral cavity may be present. Abscess may involve any lobe and may be multiple. The right lower lobe is said to be the most common site of predilection, although Flick's series again shows a predominance of upper right lobe lesions. While two or more abscesses may be present almost 80 per cent show a single cavity. In 19 per cent two lobes are involved, and in 1.2 per cent three lobes.

Broadly speaking, the causes may be grouped as: 1 following surgical operations, chief among which are *a*, tonsillectomy and other oral operations such as extraction of teeth, and *b*, other operations such as appendectomy and herniotomy; 2 following acute infections of the respiratory tract, acute cold, influenza, acute bronchitis and pneumonia; and 3 miscellaneous causes, chiefly chest injuries, stab wounds, etc. Considerable controversy has been waged in re-

gard to the importance of aspiration of foreign infective particles or of emboli in the causation of postoperative abscess. There are some interesting figures, clinical and experimental, relative to the purely aspiration, or the purely embolic theory of causation. In one large series there were 97 cases of abscess following tonsillectomy and of these 88 were under general anesthesia, 4 under local, and in 5 anesthesia not stated. Of 10 cases following the extraction of teeth, in 7 the anesthesia was general and in 3 local. On the other hand, it is difficult to produce abscess by the deliberate injection of infected particles into the lungs. Normally, the lung is protected by four mechanisms against infection by aspiration; 1st, the pharyngeal reflex; 2nd, the cough reflex; 3rd, the action of the cilia whose rhythmic motion clears the trachea and bronchi of secretions; and 4th, some unknown tissue immunity protecting the lung against infection. Ether abolishes the first two and probably stops the cilia movement.

In regard to the question of aspiration or embolism as the causative agent after tonsillectomy, Weil has made an interesting observation. He thinks that there are two distinct types of abscess following tonsillectomy, in which the clinical course is entirely different. In the first type, the patient after tonsillectomy never seems to get back to normal, runs a fever, has a constant cough, and more or less distress in the chest. This type, he thinks, can readily be attributed to aspiration. Compare the second type. Here the patient recovers normally after operation, goes home, and seems to be wholly cured. Suddenly he develops chest symptoms, goes from bad to worse, and finally shows lung abscess formation. This type, he thinks, is embolic. It is stated that after one in every 3,000 tonsillectomies abscess will develop. Abscess following operation in another part of the body, as appendectomy or herniotomy, must of course be due to embolus. Cutler and

*Presented by Invitation to the Spartanburg County (S. C.) Medical Society, meeting May 25th, 1931.

his co workers have been able to produce acute abscess in the lungs of animals almost at will by the injection of infected emboli into the jugular vein, although they were unable to produce chronic abscess. In other experiments they were unable to produce abscess in a single instance by the injection through the bronchoscope of various infective materials.

Pulmonary abscess may be secondary to bronchial occlusion or bronchial stenosis. The common causes of bronchial stenosis are foreign body, bronchial tumor, granulation tissue and cicatrix. Cure of the abscess will promptly follow the relief of the bronchial stenosis.

The symptoms and clinical picture of abscess are fairly characteristic and well known: malaise, fever, possibly chills, cough, hemoptysis and purulent expectoration, although it must be remembered that sometimes, if the abscess cavity does not communicate with a bronchus, there may be no cough or expectoration. Muller calls attention to this fact and states that he has seen such cases. Again, it is well known that cases of pyogenic abscess have been committed to sanatoria for the tuberculous. Clinically there may be a very striking resemblance to tuberculosis.

After the diagnosis, is the problem of treatment. At the outset let me quote Graham who says:

"One of the most difficult problems at present concerned with the treatment of all lung suppuration is the determination of the indications for any particular therapeutic procedure in any given case. . . . For this reason it is most desirable that these cases should be seen and discussed by a team experienced in handling such problems. The team should consist of a surgeon, an internist, a bronchoscopist, and probably an x-ray man."

This then is the first essential of the treatment. The second is conservatism, particularly from the surgical viewpoint. An ill-timed surgical intervention commonly proves fatal, regardless of how perfectly the operative technique is carried out. With the thought of conservatism constantly in mind, the general plan of treatment in the average case is to begin with simplest measures; only when these have failed is there justification for more radical action.

It is a well known fact that in 25 per cent of cases of lung abscess recovery occurs

spontaneously or with the simplest medical measures. Postural drainage and rest should be tried in all cases at first. If it is to be successful, the abscess must communicate with a bronchus and the best posture for drainage must be determined by accurate x-ray localization of the abscess. The x-ray plates should be made from both antero-posterior and antero-lateral positions. Naturally a centrally located abscess communicating with a bronchus is more ideally situated to respond to the regimen of rest and postural drainage than is a peripheral abscess. To quote Miller and Lambert, in a series of 40 cases:

"The effect of this treatment is very striking when successful. The more complete emptying of the cavity gives a complete cessation of the cough for hours at a time, allowing a very gratifying relief from the constant and harassing paroxysms which so often mark this disease. The amount of expectoration, which is carefully measured and noted for each 24 hours, at first materially increases, and then in a few days gradually diminishes, until it may entirely disappear in a week or 10 days. The fever subsides, and the patient is transformed from a miserable and acutely ill person to a comfortable convalescent. Many times these desirable results are only partially obtained and in still other cases no appreciable result in amelioration of symptoms is noticeable."

In such cases after adequate trial it is necessary to supplement this treatment by one of the other methods to be considered.

Bronchoscopic aspiration has become popular in recent years, largely through the work of Yankauer, Jackson, Myerson, Lynah and others. In 1927 Myerson said that "bronchoscopy in early abscess offers almost certain cure." Miller and Lambert considered it a "useful adjunct to rest and postural drainage." Certain it is that bronchoscopy has proved of the greatest value in localizing and destroying the abscess. In the type of cases first alluded to, the bronchostenotic, where the abscess is due to an obstruction in the bronchial tube by foreign body, tumor, granulation tissue, etc., the bronchoscopic treatment is the treatment of choice. On the other hand, peripheral abscess, or abscess which does not communicate with a large bronchus or is situated high in upper lobes, can rarely be greatly benefited by bronchoscopic treatment. However, as a rule, bronchoscopy is indicated for some reason or another in almost all cases.

Artificial pneumothorax, by compression of the affected lung and obliteration of the abscess cavity, I believe, is the least popular of all measures for treatment of abscess, but it is used at times with good results. It is considered dangerous by most surgeons because of the possibility of disseminating septic material widely in the lung, and because if there are adhesions between the lung and the chest wall it may cause lung rupture with highly fatal pyo-pneumothorax. An old abscess with thick walls and the presence of pleural adhesions are positive contraindications for its use. It serves best when the abscess is centrally located, there are no adhesions, and the cavity communicates with a large bronchus. But, these are also the indications for the ideal bronchoscopic treatment, and of the two I greatly favor the latter procedure as safer and more exact.

Operations on the phrenic nerve intended to temporarily or permanently paralyze the diaphragm on the affected side and permit its ascension, and thereby compress the abscess cavity, is a very useful procedure. It is my experience that, combined with bronchoscopy, it will result in the healing of otherwise intractable abscess.

External drainage of the abscess cavity is necessary in about 50 per cent of the cases of abscess, but should be resorted to only after all simpler measures have failed. It is never indicated in the early acute stages; on the other hand it should not be delayed indefinitely and the disease be allowed to go on to the formation of chronic abscess with thick fibrous walls, which is unfavorable for radical cure by operation or any other method of treatment. As a general rule, surgical treatment should not be delayed longer than 8 to 10 weeks. The decision as to when this optimum time for operation has arrived is the most difficult and important factor in successful treatment. I cannot do better in discussing this phase than to again quote Miller and Lambert:

"We found the operation extremely dangerous and usually unsuccessful in the acuter phases of the disease; that is, during that period when there was present about the softened, central suppurating focus a . . . zone of edematous, soggy infected lung, in which the smaller bronchi were filled with pus and the alveoli were distended with sero-purulent exudate, while the walls of the alveoli were swollen

and edematous. Our experience has led us to believe that incision of the abscess at this time fails to drain effectively the entire infected area, and that, with a free opening established, the effectiveness of coughing in emptying these areas is greatly reduced. In many of our cases in which the abscesses were opened during this stage, there was a pronounced improvement for a few days, the expectoration was diminished, the temperature became normal, and the patient apparently was making a satisfactory recovery. But this period was followed by a wide extension of the pneumonic process, sometimes ushered in by a chill, and a fatal termination in from 3 to 5 days or a week. At necropsy there was found a widespread massive involvement of the entire lung or both lungs, in which the bronchi were filled with pus, and the alveoli either showed the changes of an acute pneumonia or were swollen, edematous and infiltrated with leucocytes. In some cases there were multiple small abscesses widely disseminated throughout the lungs.

"After postural drainage, even if it does not effect a cure in itself, there is a definite improvement in the constitutional symptoms and a clearing of this secondary zone of infiltration about the abscess, which renders an operation much more liable to succeed.

"There furthermore is a period in lung suppuration when the alveoli in the immediate vicinity of the abscess are collapsed, but the respiratory epithelium is still intact, and they are therefore capable of re-aeration, and this is the most favorable time to operate. If the suppuration continues this epithelium disappears, and the alveoli are obliterated; and there is found a true connective tissue layer composed of fused alveolar walls, observed in chronic abscesses; a condition most unfavorable for a complete cure and one which favors the establishment of a permanent bronchial fistula after operation.

"The problem then is to give each patient opportunity to reach the more favorable stage, and at the same time not allow him to advance to the later incurable stage. Comparative x-ray pictures are our best guides for the recognition of these stages. Acute cases show diffuse densities shading off gradually into the surrounding normal lung without any sharp line of demarcation. This represents the zone of pneumonic infiltration above described. Under rest, posture and bronchoscopy, it is almost always possible to obtain a change in the x-ray picture represented by a diminution in the area of the collateral zone inflammation and a sharper line of demarcation between it and the surrounding normal lung. When the change is obtained and further clearing tending toward cure does not occur after 3 or 4 weeks of observation, we believe the time has arrived for operation."

Peripherally located abscess is usually a strictly surgical problem from the beginning and drainage may be promptly instituted. Before external drainage is undertaken the abscess should be as carefully as possible localized in relation to the ribs by means of the x-ray and bronchoscope. Exploratory punctures are condemned by all because of the danger of infecting a clean pleura. The surgeon ought to know the point at which the abscess is closest to the chest wall. Generally an abscess of the upper lobe can be best reached through the antero-lateral wall of the chest. In abscess of the lower lobe the approach is posterior or postero-lateral. Local anesthesia should be used invariably, and as a rule a two-stage operation is preferable. Through an ample incision the necessary ribs, depending on the size of abscess, are resected, the pleura exposed, and after packing iodoform gauze firmly against it, the skin is lightly sutured. An x-ray picture may now be made to show the proximity of the abscess. After 5 to 7 days the abscess cavity is opened widely and packed. No drainage tube is used. The packing permits free draining and obstructs the opening sufficiently to enable the patient to cough effectively and bring up material from parts of the lung not drained through the abscess cavity. This is important in lessening the pulmonary complications which sometimes follow closely the free opening of a large abscess.

In addition to simple drainage, some step must be taken to obtain obliteration of the abscess cavity. This can usually be effected by resection of sufficient ribs over the cavity to allow contractions to take place. Two or more ribs should be resected, depending on the size of the cavity. Removal or destruction of the thickened wall of the abscess may become necessary and can be done, as advised by Flick with the endotherm knife, with the electric cautery, or with the soldering iron after the method of Graham. It is probably wisest to be content with drainage at first, removing or destroying the wall of the abscess later.

To summarize, lung abscess is best handled by the concerted endeavors of internist, surgeon, bronchoscopist and radiologist. The simplest measures are always to be tried before the more radical measures are undertaken, yet operation should not be too long

delayed lest the stage be reached where no form of treatment can avail. From a surgical viewpoint the greatest single problem is the selection of the optimum time for surgical intervention.

—523 Professional Building.

OBSERVATIONS ON THE BLOOD SUCKING ACTIVITIES OF THE HOOKWORM, *ANCYLOSTOMA CANINUM*

(Wells, H. S., Nashville, Tenn., in *The Journal of Parasitology*, June, 1931)

Observation of 200 specimens of *Ancylostoma caninum* attached to the intestine of anesthetized dogs shows that under these conditions the worms are almost constantly sucking blood. Calculation indicates the possibility that a single worm may withdraw blood from the host at the rate of 0.8 c.c. in 24 hours. From the rapidity of flow of blood through the worm it appears that the parasite can utilize only simple diffusible substances already prepared for its consumption by the host. The findings indicate that in any consideration of the causation of anemia of hookworm disease, whether in dogs or in man, the factor of blood sucking must be taken into account.

ULTRAVIOLET AND HELIOTHERAPY IN TUBERCULOSIS

(Thompson, R. D., Wisconsin Med. Jour., Feb., 1931 via *The International Digest*, May, 1931)

The first class includes the infection of the skin (usually lupus), external lymph glands, bones and joints. In all these lesions sunlight therapy is indicated provided there is no pulmonary involvement, and along with heliotherapy there must be hygienic treatment with rest, both mental and physical, fresh air and nutritious food.

In the true pulmonary or adult type of tuberculosis which represents 85 per cent. of all forms of this infection there are two definite types, a productive or fibroid type and an exudative or ulcerative type. It is in these two forms, especially the latter, that heliotherapy does serious and frequently fatal harm.

"The enthusiastic endocrinologist," says Macfie Campbell (Henderson, D. K., Glasgow, in *Edinburgh Med. Jour.*, June), "will translate not only the bodily traits but the whole personality of Cassius into his endocrine formula, and with his glance focussed on the pituitary gland, have little interest in the organization of all the other forces which make up that sombre personality. He may even simplify his formula into chemical terms, and then we find the absence of religious belief in Napoleon explained by the absence of the requisite chemical component, no hint of the formula for which is given. For this worker not Wellington nor Blucher is the agent of destiny, but providence worked out its will by determining an early failure of the great man's pituitary gland."

Notes On Diagnosis and Treatment

A Column Conducted By

THE STAFF OF THE PARK VIEW HOSPITAL
Rocky Mount, N. C.

For this issue, W. BERNARD KINLAW, M.D.,
F.A.C.P.

HEART ATTACKS

The term, heart attack, covers various diagnoses with many subjective sensations and may include anything from gas on the stomach, which may be relieved by sitting up in bed, to coronary occlusion with sudden death. When the doctor arrives on the scene, the patient, if not already relieved by household remedies, will usually complain of palpitation, chest pain, dyspnea, syncope, or cyanosis. Palpitation includes any sensation caused by abnormal heart action of which the patient is conscious, therefore we may expect to find ventricular extrasystoles (which usually disappear after exercising the patient a little), auricular fibrillation (made worse on exercising the patient), paroxysmal tachycardia (starts and stops suddenly), or the slow pulse of heart-block or possibly Adams-Stoke syndrome. This may be accompanied by dizziness or partial or complete loss of consciousness.

The history of onset, age, sex and type of patient play a large part in the diagnosis. A heart attack often comes in the middle of the night after a family argument before retiring. *Pain*, under the sternum is often serious if in elderly people. Try to rule out angina pectoris (attack lasts only a few minutes and is usually relieved by the nitrites) by the character of the pain and the previous history. Coronary occlusion pain is usually under the sternum; it may be over the precordium or in the epigastrium, and is nearly always in elderly men. It may be crushing and present a desperate picture or it may be of varying degrees. It is not relieved by the nitrites, but requires large doses of morphine, and lasts much longer than angina. It is very important to rule out this condition before letting the patient get up. Coronary occlusion may present a sudden onset of *dyspnea* instead of pain as it is usually described. I have recently seen such a case that terminated fatally. *Cardiac*

asthma, usually at night, is really a heart attack and should not be confused with bronchial asthma. Bronchial asthma practically never has its onset after 40.

It is helpful to accurately locate the apex in relation to the mid-clavicular line. Four out of seven cases of spontaneous pneumothorax that I have seen were considered heart attacks on account of the sudden chest pain, cyanosis, dyspnea and distant heart sounds. The apex beat is always pushed away from the affected side, the breath sounds are faint or absent, the percussion note is tympanitic, and the fluoroscopic or x-ray study proves the diagnosis. The heart is often accused following operation when the patient has dyspnea, cough and cyanosis, and the apex beat is displaced toward the affected side, due to massive collapse of the lung. The decrease expansion and fremitus, impaired percussion note and faint breath sounds may often disappear like magic if the patient is rolled roughly on his non-affected side.

Pulmonary embolus with the right-sided heart strain, cyanosis, pain, and hemoptysis is still called a heart attack; the patient decides within a few hours whether he will live or die.

The young women with effort syndrome, complaining of heart pains, palpitation, sighing, who are frequent office visitors, need very careful examinations, not only of the heart, but also of the metabolic rate, their chest, and for any foci of infection. Probably a regulation of their working and playing hours is needed before their attacks will ever cease. The child that gets cyanosis of his lips and nails on exertion usually has a congenital valve lesion as the cause of his heart attack.

A majority of the patients complaining of what they call a "heart attack" will present a heart murmur, because most people have a heart murmur during any excitement or rapid heart action. Most of them will be systolic (following the first sound) in time and of little significance. The diastolic murmur (following the second sound) is the important one and is the most difficult to hear. If heard along the left upper sternal border, usually directly after the second sound, it indicates rheumatic, aortic regurgitation in over 90 per cent of the cases. A

sternum is usually due to syphilis. The mid-diastolic murmur to the right of the upper diastolic murmur at the apex nearly always indicates mitral stenosis. It is best heard with the bell type of stethoscope applied lightly to the skin. A little exercise brings it out more clearly.

The circulatory failure that sometimes follows an operation is most likely vasomotor collapse and will respond more readily to adrenaline than to digitalis.

Most heart disease in this section is of the hypertensive type and for these patients who complain with some discomfort in the chest on exertion, theominal (theobromine gr. v and luminal grs. $\frac{1}{2}$) three or four times daily is of definite value.

Metaphyllin increases the coronary flow about 15 per cent. Some recent work shows that pancreatic extract increases coronary flow over 30 per cent and is reported useful in decreasing the severity and frequency of angina attacks. A hypothyroid patient may have dyspnea and other symptoms of failing compensation which will not be relieved by digitalis, but thyroid in proper dosage causes immediate improvement as well as definite changes in the electrocardiogram.

If for any reason atropine is contraindicated, an ampule of magnesium sulphate intravenously will often cause pulmonary edema to disappear immediately.

One or two hours' rest after the midday meal helps most drugs to give far better results.

EASY TO TELL MUSHROOMS FROM TOADSTOOLS
(Jack Shuman, Los Angeles, in Medical Herald, June)

When we know that there are over two hundred varieties of edible and less than ten of the poisonous varieties we must admit that countless numbers of these delectable, nourishing fungi go to waste.

Yesterday whilst playing 18 holes at the California Country Club, my caddy and I picked a golf-ball box full of meadow mushrooms; those umbrella-shaped, pink-gilled, thick-stemmed, ones. Fried in butter and eaten on toast, they made a dish fit for a king.

Mushrooms are highly protein and will take the place of meat on the bill of fare. The deadly amanita type have a death-cup out of which rises the stem—also a thick collar on the stem just below the gills at the place where the "veil" broke away when the plant mushroomed, i.e., broke open. The death-cup is not always visible; it may be beneath the soil.

The spores of poisonous toadstools are white—all black-spored mushrooms are edible.

Old mushrooms, like old meat, are not so good. When they are gathered, the root should be cut off with a pocket-knife blade, thereby eliminating soil from the food.

There is an insect, his name is "legion," which pierces many mushrooms and lays its egg where it hatches into an easily seen larva in the course of a few days, destroying the edibility of the plant.

Do not pin your faith on the test of "cooking mushrooms with a silver coin or spoon." It is thought by some that poisonous mushrooms will invariably turn the metal green. This test is not reliable, and one should know mushrooms without having to rely upon a cooking test because that is getting too near the eating test.

VIOSTEROL AND COD LIVER OIL: COMPARATIVE
OBSERVATIONS

(Prather, E. O., jr.; Nelson, Martha, and Bliss, A. R., jr., Memphis, in Amer. Jour. Dis of Children, July)

Viosterol does not demonstrate the power to stimulate growth and development of the body and vital organs, or to prevent infections of the upper respiratory tract or to produce the same degree of calcification and growth of the bones as does cod liver oil. Since "colds," malnutrition and intestinal inadequacies are more frequent in children than rickets, this study emphatically suggests that the apparently widespread substitution of viosterol for cod liver oil in the diet of the child is not logical and may result in an appreciable decrease of the child's strength and resistance to infections.

Robert McGraw, 65-years-old Negro quack, was arrested, June 8th, at Winstead, charged with violating the Basic Science Law (news item *Journal-Lancet*, July 15th). The state board of medical examiners had him arrested on a complaint filed by Mr. Brist, representing the board. McGraw plead guilty to both charges before Judge C. M. Tift, who imposed a fine of \$225 and costs on the first charge. On the second charge Judge Tift sentenced McGraw to one year in the county jail and suspended the sentence on the condition that McGraw return immediately to Illinois, his native state, and refrain from the practice of healing in Minnesota. The court expressly reserved the right to revoke the suspension of the sentence at any time it saw fit. Judge Tift also warned McGraw against attempting to practice in his own state or anywhere else, unless he was licensed. This brings to a close three years of work on the part of the state board of medical examiners to eliminate a man whom the board describes as one of the most vicious quacks in the state.

Clinical Comment

A Column Conducted By

L. G. GAGE, M.D., Charlotte, N. C.

ALKALOSIS

Most doctors are familiar with the syndrome of acidosis. They are probably not so familiar with the symptoms and causes of alkalosis. Alkalosis is a condition resulting from an excess of basic ions in the tissues. Ordinarily the body maintains a scrupulous acid:base equilibrium and it is almost impossible to upset this condition in the healthy organism except by massive administration of acid or basic elements. The two conspicuous substances that result in acid and basic elements in the body are ammonium salts and bicarbonates, the ammonia and carbonate radicals being metabolised to leave the acid or basic radical free to combine with other elements of opposite affinity in the body.

The picture of alkalosis is the opposite of that of acidosis. The most marked feature of acidosis is air hunger. In alkalosis the respirations are slow and shallow, instead of deep and rapid. Both conditions are liable to be accompanied by stupor or coma. The color may not vary greatly in the two conditions. Both may produce nausea and vomiting. Alkalosis is frequently accompanied by a neuro-muscular irritability manifested as tetany.

Conditions that give rise to alkalosis are overdose of bicarbonates, (It sometimes occurs in the course of the Sippy treatment for ulcer.), nephritis, obstruction of the duodenum and pylorus.

The treatment consists in the administration of ammonium chloride and other chlorides by mouth, by rectum, or intravenously.

SOME FALLACIES IN PHYSICAL EXAMINATION
(Gordon, A. H., Montreal, in *The Canadian Med. Asso. Jour.*, June 1931)

The more direct our methods are, the freer they are from fallacies, and that is why inspection and palpation of the chest are more reliable methods than are percussion and auscultation.

The methods of percussion and of dead reckoning are both extremely useful and sometimes the only methods available, but both should be employed with an acute sense of their limitations. The percussion note below the left clavicle is distinctly duller than that under the right. Just why this

difference should occur in children is differently explained. In any case the recognition of this normal difference between the two sides may help us from falling into error. On each side just below and outside the scapula is an oval area of relative dullness the size of an open hand. There is a more resonant area between this patch and the mid-line of the back, and you will note that the duller area corresponds with the chest wall at the site of the angles of the ribs. This dull area is scarcely found in women or children, but the heavier and bonier the chest wall, the more pronounced it is. It is obviously due to the bony mass formed by the imbricated angles of the ribs. A glance at a skeleton will illustrate the fact. Not a year passes by but someone mistakes this normal condition for a sign of intrathoracic disease.

Listen while we percuss this other man's back as he lies upon his right side. The upper or left side is distinctly less resonant than the right or lower side. Now let us turn the patient over on his left side and percuss him again. It is equally clear that now the upper or *right* side is the less resonant. Listen to this note as I percuss the mattress on which the patient lies. It is almost tympanic, and it is this highly resonant note that merges with the chest note when the lower side of the chest next the bed is percussed, and which renders the note from the lower side more resonant than that from the upper. Auscultation also is not without its fallacies.

The bronchovesicular, or bronchial, type of breathing heard normally over the second space in front and in the interscapular area behind is known to us all, but it is well to remember that sometimes the same type of breathing is heard normally in the right axilla.

Even palpation is not without its difficulties, especially in the abdomen. How frequently have we all found masses of every kind under the harmless upper segment of the right rectus. This may well be called "the area of speculation" and any unusual tumour or resistance here should be carefully checked by palpation in the region outside the edge of the rectus before we regard it too seriously.

Not a year passes that someone in this classroom does not find a sarcoma or carcinoma or some other "oma" just below the umbilicus in some thin woman whose lumbo-sacral prominence projects almost through the anterior abdominal wall.

There's a mental hazard in physical examination. How simple it is to allow the examining fingers to slip "kerplunk" off the right edge of the lower rectus on top of McBurney's point and produce a typical abdominal response. This has been done even by the very elect, and in all sincerity, and when we reach the plane where we can no longer fool ourselves we shall be physicians who are physicians indeed.

PRESIDENT'S PAGE

Tri-State Medical Association of the Carolinas and Virginia

Beverley R. Tucker

The history of the Tri-State Medical Association is a most interesting one but it can not be gone into in this letter. I shall say, however, that the history of this Association embodies much that partakes of the better accomplishments, personality attractions and the stimulating traditions of medicine in Virginia, North and South Carolina. In the last quarter of a century the physicians of this Association have acquitted themselves well. Besides this the Association has a sentimental slant, for truly the members have been a band of scientific brothers. One can not refrain from mentioning the devotion to this Association shown by Dr. Rolphe Hughes of Laurens, South Carolina, Dr. James K. Hall, of Richmond, and the present secretary.

The summer in this section gives us at least some time for contemplation and for planning our winter's work. I am taking this opportunity of asking every member to do three things: First, to make up his mind to attend the Raleigh meeting where he will receive more than he can possibly give both in scientific knowledge and in personal pleas-

ure. Second: I would ask each man to send in an application for at least one new member: the grim reaper works eternally and fresh blood is the motive power of every organization. Third: I would ask each man to look over his records, dip into his mind and see if there is not something of importance and interest that he would like to present before the meeting. If he should not have anything he would care to present, when the program comes I hope he will study each title and prepare himself to discuss as fully as he can any of the papers in which he may be interested.

It is not too early to predict that the Raleigh meeting will be a success but simply a success is not all that we wish. Let's make it the largest and the best meeting in the history of the Association. If every man will bear this in mind and contribute what he can the Raleigh meeting will become historical.

May I express my kindest regards and extend my best felicitations to each and every member.

Beverley R. Tucker.



THE AMERICAN COLLEGE OF PHYSICIANS

San Francisco, 1932

The American College of Physicians will hold its Sixteenth Annual Clinical Session at San Francisco with headquarters at the Palace Hotel, April 4-8, 1932. Following the Clinical Session, a large percentage of the attendants will proceed to Los Angeles where a program principally of entertainment will be furnished April 9, 10 and 11.

Dr. S. Marx White, of Minneapolis, President, will arrange the Program of General Sessions. Dr. William J. Kerr, Professor of Medicine at the University of California Medical School, San Francisco, is General Chairman of local arrangements, and will be in charge of the Program of Clinics. Dr. Francis M. Pottinger, of Monrovia, is President-Elect of the College, and will be in charge of the arrangements at Los Angeles. Mr. E. R. Loveland, Executive Secretary, 133-135 S. 36th Street, Philadelphia, may be addressed concerning any feature of the forthcoming session.

Southern Medicine and Surgery

OFFICIAL ORGAN OF

TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA

MEDICAL SOCIETY OF THE STATE OF
NORTH CAROLINA

JAMES M. NORTHINGTON, M.D., *Editor*

Department Editors

HUMAN BEHAVIOR

JAMES K. HALL, M.D. Richmond, Va.

PEDIATRICS

CHILDREN'S CLINIC GROUP Black Mountain, N. C.

E. K. McLEAN, M.D. Charlotte, N. C.

DENTISTRY

W. M. ROBEY, D.D.S. Charlotte, N. C.

EYE, EAR, NOSE AND THROAT

EYE, EAR AND THROAT HOSPITAL GROUP
..... Charlotte, N. C.

LABORATORIES

THE BARRET LABORATORIES Charlotte, N. C.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D. Gastonia, N. C.

UROLOGY

HAMILTON W. MCKAY, M.D. Charlotte, N. C.

ROBERT W. MCKAY, M.D. Charlotte, N. C.

RADIOLOGY

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D. Charlotte, N. C.

INTERNAL MEDICINE

PAUL H. RINGER, M.D. Asheville, N. C.

SURGERY

GEO. H. BUNCH, M.D. Columbia, S. C.

THERAPEUTICS

FRDERICK R. TAYLOR, M.D. High Point, N. C.

OBSTETRICS

HENRY J. LANGSTON, M.D. Danville, Va.

GYNECOLOGY

CHAS. R. ROBINS, M.D. Richmond, Va.

NEUROLOGY

OLIN B. CHAMBERLAIN, M.D. Charleston, S. C.

HISTORIC MEDICINE

VARIOUS AUTHORS

PUBLIC HEALTH

JAMES ADAMS HAYNE, M.D. Columbia, S. C.

GEO. M. COOPER, M.D. Raleigh, N. C.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D. Winston-Salem, N. C.

HOSPITALS

MERCER C. PARROTT, M.D. Kinston, N. C.

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

LYMPH FORMATION AND EDEMA WITH SOME OF THEIR CLINICAL BEARINGS

Illustrating an Application of Physiology in the Practice of Medicine

The blood as a circulating medium carrying food material, absorbing wastes, keeping the tissues supplied with oxygen and removing carbon dioxide, is everywhere confined within the blood vessels and necessarily so. The escape of blood into the tissues results in a clot with the loss of its functions. The blood therefore functions as a nutrient, irrigating fluid only by reason of the fact that certain of its constituents escape through the capillary wall and the metabolites, or waste substances, are absorbed through the capillary wall into the blood stream. Normally there is, therefore, a regulated inflow and outflow—an interchange of food materials and wastes between the blood and the tissues—a very essential process for the life of the cells, which the physiologists know as lymph formation. It is not only a matter of vital importance that the tissues be supplied with food by a proper regulation of lymph flow, but it is equally important that the essential composition and volume of blood should be maintained.

In the extremities and other regions where muscle tissue is predominant the inflow and outflow is so evenly balanced that the volume of fluid in the tissues is maintained and the interchange proceeds without an appreciable excess or overflow. In other regions, *e. g.*, the hepatic and splanchnic, there is normally an excess of outflow which is much increased during alimentary digestion. Under normal conditions the excess overflows into, and is carried back into the general circulation through, the lymphatic vessels which unite finally in forming the thoracic ducts. The lymphatics function therefore much as a drainage system—the ditches of the swamp. So long as a balance between the outflow and inflow is maintained by direct interchange as in the muscles, or indirectly by way of the lymphatics, there is no excess of fluid in the tissues. If, however, the balance is disturbed, one of two conditions may result, namely, an edema characterized by an excess of fluid in the extravascular spaces, the measure of which is the increase of body weight, or the opposite condition, an anhydremia, charac-

terized by a deficiency of fluid in the tissues.

Edema may be looked upon as excessive lymph formation,—lymph formation out of balance—an exaggeration of a normal process, or essentially a pathological process. However this may be, edema and excess lymph formation occur under much the same conditions and may be explained on a basis of the same fundamental principles.

The mechanical theory offers the most satisfactory explanation of most of the observed facts of lymph formation and edema. The essential factors in this theory are:

First, the permeability of the capillary wall which is limited, though variable. Obviously, it is fundamental that the vessel wall which has all of the qualities of a membrane should permit the more or less free passage of the water, salts, sugars and the like, and less freely the passage of colloidal substances—the plasma proteins. If the capillary wall may be thought of as a porous membrane—and it may become more or less porous—the volume of fluid escaping will be more in the former condition than in the latter. Moreover, if it should be more porous more of the colloidal protein material would escape. Parenthetically it may be pointed out that the proteins of the plasma are in no sense food for the tissues; they are essential elements in the structure of blood and have important functions. In order to retain them the vessel walls are relatively impermeable to them. It has been shown that variations in the permeability of the capillary wall exists normally as between certain regions, *e. g.*, the permeability is greater in the liver and splanchnic area than in the extremities where muscles predominate, and the lymph is richer in proteins and is more abundant. The permeability is normally increased during functional activity, coördinate with the demand for increased foods in the tissues. This may be due to simple distention or stretching of the capillaries, or to the local action of certain metabolites—carbon dioxide, lactic acid, etc. The actual control of lymph formation in functional activity has not been worked out; the functional units, the cells, seem to have much to do with it.

In pathological conditions, as edema, there are more substantial grounds for assuming an increase in permeability. In the local traumatic edema, in urticaria and the like, there is, according to Lewis, the production

of histamine-like substances, or of histamine itself which has been shown not only to dilate the capillaries, but to increase the permeability of the vessel wall. In scurvy, beriberi and other dietetic deficiency diseases of this character the accompanying edema may be explained on a basis of increased permeability. In the local edema of inflammatory processes the action of bacterial toxins may alter the permeability and in the edema of the early stages of acute hemorrhagic Bright's disease there are noticeable changes in the capillaries. In normal lymph formation and in edema the permeability of the capillary wall is therefore an important factor.

The second factor, or rather group of factors, are physico-chemical—filtration, osmosis, diffusion. If capillary blood pressure is greater than the pressure in the extravascular spaces, fluid will filter through the capillary as it does through paper placed in a funnel. If the capillary wall is freely permeable, as is believed, to water, salts, etc., there is, under capillary blood pressure, an escape of water, salts, etc., until an equilibrium is established between the blood in the capillaries and the fluids in the tissues. So long as blood flows in the capillaries the capillary pressure will be greater, a positive filtration pressure exists, and an outflow of fluid goes on. The greater the filtration pressure the more rapid the outflow. Should the hydrostatic pressure in the tissues be greater than in the capillaries one may suppose the process reversed and the current from tissues to capillaries and that readjustment would result. Unfortunately, higher extravascular pressure tends to compress both capillaries and veins and a vicious circle is set up. Filtration is therefore the principal factor in the outflow from the capillaries.

Osmosis operates in an opposite direction to filtration, *i. e.*, it draws water from the tissues into the capillaries and is the process by which absorption—the inflow—is accomplished. The osmotic pressure of blood as compared with water is very high—approximately seven atmospheres or 3200 mm. of mercury. This is due largely to its salt content, but as the capillary wall is freely permeable to salt, the extra-cellular fluids will have the same, and salt as a factor becomes negligible. The edema due to salt retention comes about from the high concen-

tration of salt in the tissue fluids and at the same time a retention of water to dilute the salt to approximately that of salt solution, or as some believe, as a protective measure against the concentration of toxic sodium. The edema which sometimes occurs in the use of large doses of sodium bicarbonate in the treatment of diabetic acidosis may be explained in the same way.

The difference in osmotic pressure between blood and extravascular fluids, as pointed out by Starling², is due to the plasma proteins which are in greater concentration in blood (7%) than in lymph (2-3%) or in edema fluids (which may be as little as 0.3%). Comparing blood plasma with 1% salt solution, Starling finds the osmotic pressure of plasma to be between 30 and 40 mm. of mercury, about equivalent to capillary blood pressure. This means that the filtration pressure of blood in the capillaries is counterbalanced by osmotic pressure of the plasma proteins acting in an opposite direction. The bearing of these observations on lymph formation and edema is as follows: Assuming capillary blood pressure and the osmotic, or "oncotic," pressure of plasma proteins to balance each other, there is no obvious lymph flow—or better, the inflow and outflow are equal. The interchange of food and waste under such conditions is by way of diffusion. This is essentially the condition in the muscles. If now capillary blood pressure is increased and becomes greater than the osmotic pressure of the plasma proteins, there is a positive filtration pressure and an outflow of lymph occurs. This happens in increased functional activity, inactive and passive congestion, in circulatory failure or stasis, in hepatic obstruction (cirrhosis, etc.) and in other conditions. There will be an increase in lymph formation or edema according to the degree of increase of the pressure. In the event that the osmotic pressure of the protein becomes greater than the hydrostatic pressure of blood the current is reversed and absorption of tissue fluids occurs. The inflow is greater than the outflow and anhydremia threatens. It is conceivable that there may be an outflow at the arterial end of the capillary, and an inflow at the venous end.

The balance between the hydrostatic pressure of blood in the capillaries and the os-

motie pressure of the plasma proteins may be disturbed by a lack in the plasma proteins. The normal percentage of plasma proteins is an average of seven. It has been shown by Van Slyke, Peters and others that when the total plasma proteins fall to 5.5%, edema occurs. This may occur without any increase in capillary blood pressure above normal levels. Such low plasma proteins may be present in an inadequate diet, malnutrition, nutritional, or war edemas, in conditions where there is a persistent loss of protein in the urine, *e. g.*, nephrosis, or from repeated hemorrhage, and many other conditions. In all, there is a tendency to edema. It has been shown that the albumin fraction of human plasma exerts three times as much osmotic pressure as the globulin fraction, and therefore the loss of albumin is of special importance. When the total protein is 5.5% the albumin is reduced from the normal 4 to 2.5% and with lower total proteins the albumin fraction may be as low as 1%. The globulin: albumin ratio, is therefore significant. Normally it is globulin 1: albumin 1.75; it may be in nephrosis, etc., 1:0.3.

Edema occurring with low plasma protein is not so simple as it appears. There seems to be a second factor concerned—the supply of salt. If there is not enough salt to make the edematous fluid approximately equivalent to normal salt, edema does not occur. The tissues apparently refuse to store water, or hyponic salt solution in which the cells cannot live.

From these considerations certain conclusions in the management of edema may be drawn. In the circulatory types the remedies are directed to the relief of the capillary stasis. In edema from salt retention obviously a salt-free diet is indicated. In the edemas associated with low plasma proteins a high protein diet (1½-2 grams per kilo, or approximately 1 to 1½ pounds steak to 150 pounds body weight) and a restricted salt would be a rational program. The older practice of restricting proteins in all cases of nephritis evidently must be abandoned. The new practice is more promising.

—I. H. MANNING, Chapel Hill.

1. LEWIS and GRANT, *Heart* XI, 209.
2. STARLING, *Jour. Physiology*, Vol. 19, 312.
3. PETERS and VAN SLYKE, *Quant. Clin. Chem.*, 673.

THE EXECUTIVE COMMITTEE OF THE STATE MEDICAL SOCIETY

Early in July Dr. L. B. McBrayer, Secretary of the State Medical Society, kindly mailed in a copy of the minutes of the most recent meeting of the Executive Committee of the State Medical Society. It so happened that our editorial section was already so nearly filled as to make it seem advisable to delay comment on this information to the August issue.

The first page deals with an offer of a new and substantial reduction in the premiums charged doctors for liability insurance. So far as we know, the company offering the lower rate is just as reliable as the one charging the higher; so if you are going to carry such insurance, it seems sensible to purchase at the lower rate. As stated in an issue of many months ago, we think it would be best not to take out any such insurance. As a second best, we suggest that the doctors of the State of North Carolina band themselves together in a mutual company to carry their own insurance. Think over it from every angle, these two in particular: 1, jurors will give disgruntled patients judgments against doctors, knowing payment will come out of insurance companies, when they would find against the plaintiff if the doctor had to pay it; and 2, as most suits against doctors grow out of unguarded words of other doctors, the formation of such a mutual company would prove a ready means of curbing the tendency of some doctors to make remarks detrimental to other doctors.

Further on in this communication there are reports of certain happenings in the State. At least one of these reports is based on incomplete apprehension of facts, the facts of which could have been, and can now be, readily ascertained by application to this journal. This refers to the conduct of certain tonsil clinics in Johnston County.

The sentence carried on the same page, "It is the duty of the medical profession, particularly the Fellows of this Society, to deliver to the people, yes and to all the people, all the time, all the scientific medicine extant on the current date," can not fail to provoke thoughtful consideration. Does not the same reasoning apply to other needs of life? If not, why not? Do the bakers feel it is their duty to supply bread "yes and to

all the people all the time"? Or the butchers, meat; the clothiers, raiment; the wood-and-coal merchant, fuel; the teachers, education; or even the minister to furnish the Gospel?

By all means let us continue to prevent and relieve disease and distress in every reasonable way just as our forefathers in the profession have done all along; but don't let's assume such a task, so impossible of accomplishment.

The appointment of a Liaison Committee consisting of the principal officers of the State Society, "with authority to confer with and act for the Medical Society with all organizations, both official and non-official, functioning in the State, in regard to matters in which the medical profession would be interested or helpful," is a matter the wisdom of which we prefer not to question here and now. However, we see no reason for the appointment of a committee clothed with such vast power in County Societies, which meet with sufficient frequency for each member to speak and cast his vote in person.

No one, more than we, believes in a sound mind in a sound body, but with the exception of those from whom hookworms can be removed and those in need of glasses,—both groups in whom the diagnosis is pretty nearly self-evident—we demur to the implication that there is any considerable number of *dull* pupils in our schools who can be rendered *sharp* by any means within our power. Why delude ourselves? The great intents of Nature are beyond our ken; we can only quote a beloved teacher, one of the greatest of natural philosophers: "It is a biological law that the inferior preponderate." We know of no way to overcome or to sidestep this law.

With the recommendation that of the work for which doctors are not remunerated an accurate account be kept, we are in entire accord. A plain, accurate statement of this account will be far more convincing and appealing to lawmakers and others in authority, than reams of rhapsodizing on our unselfish devotion to the best earthly interests of mankind.

This journal joins in with all those agencies which are proclaiming that the hardness of the times demands that more money be appropriated for health care; whatever other

departments may be deprived, the deprivation will be justified.

The Mecklenburg County Medical Society has anticipated the recommendation of the Executive Committee in that this Society has taken a decided and effective stand against the crippling of our County and City health work.

The Executive Committee's earnest representation to County and City authorities that no consideration be allowed to prevail on such authorities to reduce appropriations for public health work is deserving of the endorsement and hearty support of every doctor in North Carolina.

EMERGENCY EYE CONDITIONS IN GENERAL PRACTICE

Our college course in ophthalmology was confined to a study of all the common diseases of the eye and the *treatment* of such conditions as the teachers deemed it reasonable for doctors in general practice to treat. We believe this was and is the right plan.

Not long ago a prominent ophthalmologist went halfway across the continent to speak, as the principal guest of a State Medical Society, on what the general practitioner should do in ophthalmology. We believe too few such addresses are made in our State and County meetings.

An article in a bulletin¹ recently received evidently was written with a view toward helping doctors who must treat eye emergencies to do it in a way which will do the patient most good and reflect most credit on the doctor.

Any injury to an eye is rightly regarded as an emergency, and the practitioner should have such a working knowledge of the commoner types as to be able to manage them with confidence and skill.

When a patient comes in saying he has something in his eye or that his eye has just been injured it is best to make a test of visual acuity of both eyes present, particularly in industrial cases. A drop of 5% cocaine (1% holocaine) on the sclera above the cornea, eye looking down, repeated in a minute—eyes kept closed in interval—will give anesthesia. Proper lighting is essential. A good electric flashlight meets most needs. Direct daylight or ordinary light from

bulbs is not sufficient. Oblique illumination is best and can be readily and cheaply provided as follows: An ordinary 60-watt electric bulb in a wall socket or suspended from the wall in a convenient position about 2 feet from the head of the patient, preferably with a reflector behind it, and a 13-diopter magnifying lens for use 3 inches from the patient's eye condensing the light from the bulb into a brilliant beam onto the eye. In addition a binocular loup is of prime importance for localization of the foreign body and in removing it by instrumentation. In using oblique illumination a dark room is essential for good work, the darker the better.

These instruments or some modification of them are necessary in the removal of foreign bodies imbedded in the tissues of the globe or lids.

Reese's or Rimpler's fixation forceps for hold- the globe (especially in nervous patients or where the globe is inflamed)-----	\$2.70
Tyrell's foreign-body hook, blunt point (not absolutely essential) -----	1.80
Small straight-blade scalpel (to lift out for- eign body) ----- (every doctor has)	
Walton's foreign-body gouge round point (to lift out foreign body)-----	1.90
Myhoefer's curette, sharp, round No. 2 (ex- cellent and no danger of wounding eye)---	3.00
Weeks' eye speculum or some other type	3.00 to 4.00
Bergen's magnifying binocular loupe (or other type) -----	5.00
13-diopter condensing lens -----	1.50

This should be available in every doctor's office.

A drop of 1% mercurochrome on the eye will stain any abrasion and reveal foreign bodies which would otherwise be overlooked.

A sterile cotton-wrapped toothpick is preferable for effecting removal. If the body is imbedded and can not be so removed, it should be *lifted* out with a spud or a sharp-pointed instrument, *not scraped off*. If the foreign body is imbedded in the posterior part of the cornea it is far best to relieve the pain, bandage both eyes and send or take the patient immediately to a competent specialist.

If all particles have been removed instill 10% argyrol followed with a bland ointment 1% buytyn and boric (as boric and bandage till following day, when, if healing of epithelium is complete, as shown by failure to stain by 1% mercurochrome, the dressing can be dispensed with. If a low-

1. *Bulletin of Practical Ophthalmology*, San Francisco.

grade conjunctivitis has been set up, prescribe, to be used t. i. d.

Adrenaline chloride	m iii
Zinc sulphate	gr. $\frac{1}{4}$
Boric acid	gr. v
Camphor water	dr. iv

In some cases the patient thinks he has a foreign body in his eye and a small corneal ulcer is discovered when a drop of mercurochrome, which stains the ulcer red, is instilled. The treatment here consists of instilling a drop of 1% atropine solution or 1% atropine ointment, followed by a dressing. Salicylates in 10-grain doses to be taken three times a day should be prescribed. Usually there is rapid response to this therapy, but if the ulcer appears to resist the treatment, investigation for focal infection should be made.

Intraocular foreign bodies almost invariably spell disaster to the eye unless they can be at once removed and energetic treatment immediately instituted. Here it is plain that the treatment should be in the most expert hands available, and at once.

Lime burn of the eye is a most serious accident, for the caustic destroys the corneal tissue rapidly and combines with it to form an insoluble calcium compound. Every visible particle of lime should be removed with forceps after cocaine, or holocaine, has been instilled and the eye copiously irrigated with boric acid, this followed by thorough irrigation with 5% neutral ammonium tartrate solution and the solution allowed to remain in contact with the tissues of the eye for several minutes. The resulting calcium tartrate can then be washed away. The reaction takes place slowly and the contact must, therefore, be prolonged. 1% atropine sulphate solution should be instilled, followed by a combination of 1% noviform and holocaine ointment, and a dressing applied. Salicylates in 10-grain doses to be taken three times a day should be prescribed. The patient should be seen again once, or preferably twice, the same day and the treatment with neutral ammonium tartrate irrigation, atropine, and ointment repeated. 1% solution of the ammonium tartrate is prescribed for home use, to be instilled in the eye every three hours. The extent of the denuding of the epithelium can be determined by staining with 1% mercurochrome or fluorescein.

There may be, in addition, a burn of the conjunctiva. The danger here lies in the formation of an inflammatory adhesion between the conjunctiva of the upper and lower lid and the globe. Keeping the eye constantly filled with ointment will do a great deal to mitigate this possibility. In severe cases, this may be impossible to prevent, in spite of the most expert handling. Such cases should, of course, be in the hands of the specialist.

When a penetrating injury is suspected great gentleness should be used in examining. A lid elevator may be necessary. Then cocaine should be instilled. It may be necessary, even, to induce general anesthesia. Unless the case can be turned over to a specialist promptly it is best to instill 1% atropine solution or ointment.

Among contusive injuries the most harmless are ecchymoses and subconjunctival hemorrhages. If the injury is more severe, the anterior chamber may be found partially filled with blood from iris hemorrhage. The pupil should be dilated to determine whether there has been any other disturbance and, if none is discovered, recovery may be complete with return of full vision. More serious injuries are separation of the iris from its attachment, dislocation of the lens, vitreous and retinal hemorrhages, detachment of the retina, tears of choroid and generalized edema of the retinal tissues, particularly in the macular region. Immediate treatment for all these more serious types of injury is atropine instillation, cold compresses, and rest in bed.

The article to which reference is made has been freely used and a comment added here and there.

It seems well to remind that acute glaucoma may give rise to an emergency eye condition, with dimness of vision, contraction of the visual field, severe pain in the eye and headache, and that every doctor should be constantly on the lookout for this condition because so much of success or failure depends on what treatment is begun at once.

The most salient features are:

1. Increase of tension most probable.
2. Steamy cornea.
3. Circumcorneal injection.
4. Moderately dilated immobile pupil.
(Compare with other pupil.)

Eserine salicylate, $\frac{1}{2}\%$, or pilocarpine muriate, 1%, should be instilled at once and repeated 3 to 4 times daily. *Atropine should never be put in a patient's eye until that patient has been proved not to have glaucoma.*

NURSING FOR THE DOCTOR'S HOSPITAL PATIENT

That seems an awkward caption; at least it did when first seen at the head of an information received from the Committee on the Grading of Nursing Schools: but, a bit of study shows it to be, not awkward or redundant, but strictly accurate.

The nursing of the patient is the main theme; but this screed is about nursing a hospital patient and deals especially with the cost phase; so it is well to be reminded that it is the doctor's patient, and that it is a part of the doctor's duty to see that his patient's money is not wasted.

This pamphlet starts out by saying the chief problems of the doctor under these circumstances arise from a feeling that, although the severity of the case does not justify the employment of a private nurse, the floor nursing service will not meet the patient's needs. A large proportion of the physicians questioned said that 2 out of 5 of their patients who employed special nurses could have been well cared for by an adequate floor nursing service. It is recommended that a larger number of graduate nurses be employed in hospitals in general and that all the supervisory work be conducted by graduates.

For this change to lessen the cost of medical care, it is obvious that a lesser total number of graduate nurses—those employed by patients plus those employed by hospitals—would be *employed*. It is doubtful however, if less would be *paid*, as it is well known that many who needlessly demand special nurses heedlessly disregard their obligation to pay them. Also, it is true that a good many who can not pay are obliged to have special nurses, under the system which is so wide-spread today.

Certainly this journal would be loth to be a party to any action which would make harder the lot of the graduate nurse. The editor recently took as his subject, in addressing a graduating class of nurses, the enormous excess of the supply of nurses over the ability of sick folks to pay for their services; and

there he pointed out some promising avenues open to nurses, as decided on by a Committee of the Medical Society of the State of New York and carried in a report made public less than 2 months ago. This Committee states positively that there is a great lack of nurses with competent training in the care of patients with infectious diseases, in the care of obstetrical or mental cases, of nurses well trained in surgical technique, and of public health nurses.

It is encouraging to learn from the report of the Nursing Committee that,

"Some smaller hospitals have already discontinued their training schools because they found their patients were much better pleased with the care given by a graduate nurse staff, and that the change meant little or no additional expense to the hospital. Some, indeed, found that a graduate staff would actually be less expensive than a good training school. In some instances, the added expense of a graduate staff is distributed among all the patients, at a slightly raised room charge. This charge is more than made up for to the patients by the fact that many of them can save the cost of the special nurse, and are sure, at the same time, of obtaining good nursing service."

The foregoing quotation strikes us as being all meat. It is perfectly plain that it would be a major crime to continue to turn out graduate nurses in the numbers of the past few years. The people can not pay them, which would foredoom the large majority to disappointment and hardship, however capable and willing they might be.

Discontinuing a large number of the training schools for nurses will reduce the recruits to a number which will reasonably meet the need and ability to pay; a large number already graduated will obtain regular employment and regular pay; *patients will get better attention at a lesser cost*; those who have the responsibility of keeping hospitals going will sleep better and live longer.

It will work a hardship on some,—undertakers, grave-diggers and dealers in mourning garments!

DON'T EAT STRING BEANS CANNED BY COLD PACK PROCESS

It is important to repeat a warning recently published in the *Journal of the A.M.A.*:

"Again attention must be directed to an outbreak of botulism from home canned vegetables, presumably canned by the so-called cold pack process. [Not said of the boiling

process]. In this, the causative food was a salad made up from two glass jars of mixture of home canned string beans, peas and carrots. The outbreak occurred in Grafton, N. D., following a party given on the night of January 29. Seventeen persons attended the party; 12 are dead, probably all who showed symptoms of botulism.

"Heretofore, home canned string beans caused outbreaks of botulism far in excess of any other food. Home canned string beans, even when mixed with carrots and peas, canned by the cold pack process, are a potential menace to the health. They should always be boiled before being served. Unfortunately, many of the recipes for the home canning of vegetables antedate the present-day knowledge of botulism and with few exceptions no effort has been made to correct them.

"The public should be told with unremitting insistence that string beans and every nonacid vegetable may be rendered safe by sterilization for a sufficient time and temperature in a pressure cooker, by drying."

ARTFUL ARTIE

The simple, child-like, pathetic faith of most folks in the printed word has been one of the marvels of all times. Kipling portrayed this most engagingly in his tale *Reingelder and The German Flag*. Despite the warnings of his friend, Hans Breitmann, that the coral snake—"called her Sherman Flach, because he vas a peautiful ret unt plack unt vite"—looked like a poisonous snake, and should be "bickled in der alcohol unt den examined," Reingelder's confidence in Yates, "dat crate authority on der Reptilia of Sout Amerka" who had said that "none of de goral snakes are mit boison sacks profided," could not be shaken. Not until he had been bitten and his arm was "genumb to der glavicle" did Reingelder doubt, and then, bitterer than "I am a det man," was the realization "und Yates—he haf lied in brint!"

Some time last April the *Journal of the A. M. A.* called attention to the falsity of a—perhaps the 100,000th—fool statement of "the highest paid editor in the world":

"Osteopaths today take the place of doctors and doctors cannot do what osteopaths do, because they haven't learned that in the human body the skeleton is as important as the steel frame in a skyscraper. It is as dangerous to have a bone pinching a nerve as it would be to have an iron beam cutting off an

electric light wire, or a water pipe. Mayor Walker, of New York, on his way west for a rest from overwork, stopped in Chicago for an osteopathic treatment. Wise mayor."

Several years ago, after seeing what nonsense and worse than nonsense made up his daily output, we formed the habit of skipping Artie's effusions.

Soon after the Santa Barbara, California, earthquake there might have been found in the columns of the "Omniscient Brisbane"—as the editor of the *Journal of the A. M. A.* aptly terms this echo of William also-Randolph Hearst—a statement that earthquakes were as apt to occur at any one place in the world as at any other. This is in flat contradiction of all experience, which is that earthquakes of any consequence have been limited to a very small area of the earth.

Another gem is his explanation of the comparative hairlessness of man as being due to the hair of the hairy monkeys catching fire and these being consumed, when our remote ancestors began to experiment with fire; when every half-wit knows hair will only singe and smell.

Still another, and perhaps the most absurd—if perfection in nonsense can be improved on—under date of March 17th:

Dictators, and the foolish people themselves, may start other wars. But the thinking men of big finance will not want them started. They cost too much.

True, wars cost a lot but what do they cost "men of big finance"—the Brisbanes, the Hearsts, the Hoovers, the Mellons, the Morgans, the Rockefellers, the Schwabs, the Fords? They cost everybody but the rich. But wars are perfect in their operation to make the poor poorer and the rich richer—as all but the very rich, the world over, are bitterly realizing right now. It is doubtful if there is a man in the U. S. who had a million dollars at the time the U. S. declared war on Germany, who did not have two to a hundred millions at the signing of the peace. Wars offer to millionaires everywhere the readiest opportunities to become multimillionaires—opportunities they greedily grab. Certainly wars do not cost men of big finance in money. And any one who believes the wretched state of the poor brought about by wars cost these robbers any twinges or tears, needs to be bored for the simples—such ones may be found daily reading and quoting Brisbane.

Our idea here is that Mr. Brisbane amuses himself with trying absurdity after absurdity on the public, and chuckles at finding no limit to our gullibility; that he says, with the Veiled Prophet, "ye would be dupes and victims and ye are."

Remember the telegram "Jack" Johnson sent when he won the world heavy-weight championship? This "Lil' Arthur", also, is "bringing home the bacon."

DR. EDWARD HOLYOKE'S PERTINENT REMARKS

(Cushing, Harvey, "One Hundred and Fifty Years," in *New England Jour. of Med.*, June 11th)

"I can imagine old Dr. Holyoke [a founder, in 1781, of the Massachusetts Medical Society, who lived to be 101] appearing among us and bluntly asking questions embarrassingly difficult to answer.

'Your scientific progress is wonderful, but are you training your students to be as good doctors as we made of them in the old days, and do you yourselves hold as strong a position in your several communities as the doctors once held?

'The longest period I was ever away from my practice was in the Spring of 1764 when, after making my will, I came here to be inoculated with smallpox virus by my friend Perkins who kept me in quarantine for 29 days. I then went home and as a self-appointed health officer inoculated 200 of my Salem people with only two fatalities, whereas two out of three were dying elsewhere from the scourge taken in the ordinary way. It was the proper thing to do; the people knew me and whether they liked it or not they took my word for it.'

It will be remembered that this inoculation was with genuine smallpox, not the cowpox vaccination (vacca—a cow) of Jenner.

'But what this old-time inoculation might accomplish was a mere drop in the bucket to what Edward Jenner did single-handed, and he too a mere country doctor. No pestilence ever spread with the speed the news was carried round the world that smallpox need be no more. All this, I fear, is forgotten with a movement now on foot to discredit vaccination and to rescind our hardwon laws. The natural way to combat such a movement is for his family doctor to say what is necessary in the legislator's home. But it would seem that a modern apartment with its victrola, its radio set and bridge table is incompatible with the idea of a home and a family life and a family doctor—the three safeguards of happiness and health.'

'Does not your present-day boast that you have

greatly increased the expectancy of life merely mean that there are going to be just so many more persons in the world growing old who some day will be in need of a common-sense practitioner to advise them how best to get along with their stiffening blood-vessels, their troublesome kidneys, their bronchitis and indigestion and diabetes and a thousand other things. There are specialists, I'm told, for every malady, for every age, for every viscus, for each and every orifice, to whom the people go; but how can they learn to whom to go, or whether to go at all, without the sage advice of a trusted general practitioner?'

These true words take on added force when put by so learned a man as Dr. Harvey Cushing into the mouth of one of the strong men of a century and a half ago. It is heartening to see with what unanimity the really big men of medicine are proclaiming that the family doctor is not only to survive, but to resume his old seat at the head of the table.

'Those 31 men over whom I presided not so long ago had their strong differences of opinion but they shared the common ground of culture, knew their classics, and at the same time had been taught to write good English, with a legible hand, even though they cut their own quills, mixed their own ink and made the best possible use of what hand-made paper was available. Can you do as well or do you merely talk your correspondence into a machine for someone, who corrects your grammar and who knows how to spell, subsequently to put through another machine onto machine-made paper?'

A wise man recognizes that all change is not progress. The foregoing paragraph is a rebuke to all of us, even those too calloused to feel the sting. Ian Maclaren paid Drumtochty a great tribute when he said "They had the ability to express themselves with accuracy, which is one of the luxuries of life."

'Some of them, to be sure, like Samuel Philbrick, broke their necks of a Sunday morning pruning apple trees, but that's a more picturesque end than dropping dead on a golf course on the Sabbath. With all your synthetic drugs, what have you today to take the place of the bark, of opium, of foxglove and belladonna and ipecac—and I might add Jamaica rum?'

Isn't that all fine, the ideas and the phrases in which they are clothed?

Here is evidence of a sense of values.

Insulin in doses of ten units daily will frequently cure indolent ulcers.

DEPARTMENTS

UROLOGY

For this issue, A. I. DODSON, M.D., Richmond, Va.

THE SIGNIFICANCE OF PROSTATIC INFECTION

It has seemed to me for a long time that the infected prostate gland as a source of disturbance both to the urinary tract and to more remote organs is too frequently overlooked.

The prostate gland is the shape of a truncated cone having its apex directed forward and its base beneath the urinary bladder. The size is about 4 cm. from base to apex and a little larger in its transverse diameter; it is about 2 cm. thick. It reaches its maximum size at the beginning of the 3rd decade of life. The prostate is a compound, tubular gland, the acini and ducts imbedded in the involuntary muscles, the latter supported by fibrous tissues, constituting the stroma of the organ. The fibrous muscular stroma comprises about $\frac{1}{2}$ the bulk of the gland.

Piercing the prostate from base to apex, a little anterior to the central axis, runs the urethra whose first part, extending from the vesical orifice to the deep layer of the triangular ligament, is known as the prostatic urethra. Its lumen is reduced by a spindle-shaped crest, the verumontanum, or colliculus seminalis. The summit of the colliculus is situated about the mid point of the prostatic urethra. The colliculus exists as the result of an elevation of the floor of the urethra, caused by the ejaculatory ducts and the presence of the prostatic utricle, or sinus pocularis, whose slit-like mouth occupies the forward declivity of the colliculus. Piercing the floor of the urethra on each side of the verumontanum are found the openings of the ducts coming from the prostatic acini. The arteries arise from the internal pudic, the inferior vesical and the middle hemorrhoidal arteries. The gland is innervated chiefly by fibers from the sympathetic system through the involuntary hypogastric plexus and the nervi erigentes arising from the 1st, 2nd and 3rd sacral nerves. The seminal vesicles are reservoir connected, each with, and lying to the outer side of, its vas; its apex is buried in the prostate where it

joins the vas at an acute angle to form the ejaculatory duct, the body consisting of an outer fibrous, a middle muscular and an inner layer of mucous membrane. It has the same arterial and nerve supply as the prostate.

The prostate secretes a thin, opalescent fluid containing numerous slightly opaque bodies of varying sizes known as lecithin bodies. It contains a moderate number of columnar round and epithelial cells and a few leucocytes. This fluid acts as a diluent to the more gelatinous secretion obtained from the vesicles and as an activating agent for the spermatozoa. The function of the vesicles is chiefly that of a reservoir. Whether or not they have secretions of their own is disputed. In addition to the secretion of fluid, the prostate also manufactures an internal secretion which probably has to do with the proper growth and maturation of the organism. David Macht, of the Brady Institute, found that the feeding of prostatic gland to their young forms stimulated both the growth and metamorphosis of the frog, toad and salamander.

The normal prostate does not project into the rectum. It may be felt as a heart-shaped body, its apex joining the membranous urethra and its base more or less notched in the center. Its lateral lobes are quite elastic and the central groove between the two lobes more or less marked. Its sensitiveness varies. Frequently phleboliths or enlarged lymph nodes, lying near or upon it, may serve to confuse the occasional examiner. The chief signs of a normal prostate are that the lobes are flat and not sensitive. An exquisitely sensitive prostate may be anatomically normal, the sensitive and tense prostate usually contains pus. The prostate with round, tense, insensitive lobe is usually hypertrophied, but it may be simply inflamed. Discrete round masses on or near the prostate are usually lymph nodes or phleboliths. Induration within the lateral lobes or projecting toward the seminal vesicle is usually inflammatory. The normal seminal vesicle is impalpable, but a dilated or inflamed vesicle is felt as an irregular, elongated mass beginning just above the prostate and extending upward and outward beyond the reach of the finger. If

greatly enlarged, the vesicles may meet in the mid line, but usually there is a space of about a finger's breadth between them.

The study of the fluid expressed at examination is of greater diagnostic value in the majority of instances than the knowledge obtained by examining the gland. Normal prostatic fluid contains only a few leucocytes, probably 5 or 6 to the high-power field, and contains a large number of lecithin bodies. As prostatic infection increases, there is a larger number of leucocytes and a diminution of the lecithin bodies until in the very badly diseased prostate the lecithin bodies are not seen at all. Clumps of pus cells even when few indicate infection. The contents of the vesicle when obtained by massage consist chiefly of gelatinous, transparent masses, each teeming with spermatozoa. Secretions of the infected vesicle contain chiefly pus and bacteria, and are more liquid in character. Live spermatozoa are rarely found in purulent vesical secretions.

An interesting study of the bacteriology of the prostate is reported by A. C. Nickel, of the Mayo Clinic. His study was based on 3500 cultures obtained from both apparently normal and infected prostate glands. He found that 59 per cent of the cultures did not grow aerobically in primary culture. The majority of his cases showed a mixed flora containing streptococci. The long-chain type, considered non-pathogenic, were most frequently found, but there were also many instances of hemolytic streptococcus as well as hemolytic staphylococcus.

The green-producing streptococci described by Rosenow were likewise isolated and in many instances showed a definite selective affinity when injected into rabbits. According to Von Lackum, about $\frac{1}{2}$ of the cases of prostatitis seen at that clinic were due to tonsillitis and other distant foci. Franklin Farman, in his article, "Classification of Prostatitis," published in the *Journal of Urology*, January, 1930, calls attention to Von Lackum's observations and suggests gastrointestinal infections, especially cholangitis and chronic colitis, as causative lesions.

There is relatively little in the literature concerning chronic prostatitis and too frequently the writer concerns himself chiefly with the prostatic infections resulting from previous urethral infections. From my observation, this condition is very often seen

in patients who have never suffered with urethral infection. The prostate gland is subject to infection both from local causes and from the blood stream, and it may be brought about as a result of general systemic infection, disease of the upper urinary tract, exposure and injury, as well as from a local urethral infection. The symptoms are local and referred. Among the former are urethral discharge, disturbances of urination and pain in the perineum and urethra, and I frequently encounter patients with a pronounced urethral discharge who deny the possibility of venereal infection and whose discharge contains only staphylococcus or colon bacillus. Very often examination of the prostate in such cases shows it to be congested and sensitive, and a complete cure of the case is obtained only after prolonged prostatic treatment. I have also met with a few cases in which a stubborn urethral discharge was brought on following prostatic massage. This was due to the fact that numerous bacteria from the prostate and vesicles were expressed into an already sensitive urethra, bringing about a bacterial infection too great to be taken care of without infection of the urethral mucosa. Disturbances of urination consist chiefly in frequency. I meet with a large number of patients, chiefly between the ages of 40 and 50, who find that, contrary to their usual habits, they are having to rise from once to twice every night to empty their bladders. These symptoms are, with few exceptions, due to an infected prostate, causing pathological processes in the posterior urethra which increase the sensitiveness in this area and thereby produce irritability of the bladder. Sensitiveness and pain in the perineum frequently present themselves as a rather dull pain, or, as expressed by patients sometimes, "a crawly feeling." These patients are very uncomfortable and are often unable to remain seated in comfort for a very long period of time. There may be sensitive areas in the urethra, and such patients will insist that there must be a urethral lesion. On examination, the urethra appears entirely normal, and infection is discovered in the prostate. Furthermore, a long and obstinate prostatic treatment brings about an improvement in the patient's condition. Referred pain is most frequently complained of in the groin, just above the pubis and about at the

upper sacral region in the back. Pain in the groin is often very obstinate and distressing. Pain above the pubis is usually spoken of by the patient as pain in the bladder. The back pain is often similar to that caused by sacroiliac strain. Thorough prostatic study and treatment of these cases frequently gives gratifying results. Chronic seminal vesiculitis manifests itself chiefly as intermittent, griping pain in the rectum, frequent urination, pain in the testicle, relapsing epididymitis, and pain resembling renal colic.

Furthermore, the prostate should be considered in all diseases resulting from infected foci, particularly neuritis, arthritis, iritis, etc. In the treatment of prostatic infection, other distant foci should be sought and eliminated.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D., *Editor*

COMPRESSION FRACTURES OF THE SPINE

The early recognition of fractures of the spine and the application of suitable splinting, as in all fractures, makes for the happiest end-result. With the convenience of x-ray apparatus there is now little excuse for not giving a patient the benefit of studied diagnosis. Most back injuries warrant x-ray examination and on the average it pays to have it—both antero-posterior and lateral views of the involved vertebrae.

As to treatment, Christopher, in a recent issue of *The American Journal of Surgery*, states that there is some diversity of opinion. He reports a small series of cases which seems to afford very favorable evidence in behalf of the conservative, in contrast to the operative, treatment.

Compression or crush fractures of the vertebrae are of frequent occurrence and often go unrecognized. In a series of 400 spinal injuries Sante and McCutcheon found that 40 per cent were compression fractures and, moreover, that of these compression fractures, 80 per cent were between the 10th dorsal and the third lumbar vertebra. These writers emphasize the necessity of making both antero-posterior and lateral roentgenograms and call attention to the need of differential x-ray diagnosis between tuberculous spondylitis, hypertrophic spondylitis, pyogenic infection of the spine, Charcot's spine, malignant involvement and

pressure destruction of vertebrae. According to Osgood, 50 to 60 per cent of compression fractures involve the twelfth dorsal or the first lumbar vertebra.

The etiological mechanism in these fractures is hyperflexion of the spine, which occurs particularly in falls. In a series of 90 spine injuries Stewart found that 42 per cent of the compression fractures had been unrecognized. Brown and Brown report the case of a compression fracture in a 13-years-old girl, whose back was hurt on a slide and who went on a hike three hours afterward. These writers note that many patients do not consult a physician until months after the injury.

In 1895 Kummel reported serious late results in these cases. As Kummel has shown the wedge-shaped deformity of the vertebra may develop in the absence of typical x-ray findings at the original examination. Kummel's disease is the painful back with wedge-shaped deformity of the vertebra which develops in cases where there has been an absence of a clinically demonstrable lesion after a fall.

While it is often possible to reduce the deformity fairly well, late x-ray studies are apt to show its persistence. Rogers goes so far as to say that, with the most careful treatment and protection possible, he has never seen an x-ray examination in the later stages that did not show a greater amount of wedging than was shown in the early x-ray study.

Until recently attention was directed chiefly to the avoidance of weight bearing and to fixation of the spine in the treatment of these cases. Stewart recommends three months in bed followed by six months in a brace. Brown and Brown place their patients in extension for two months and follow this with a brace or cast for six to 12 months. Rogers uses a plaster shell for six weeks and places the time of average recovery at six months. Eikenberry keeps his patients in bed on a convex frame for three months and uses a spinal support for nine months more. Christopher reviewed 131 cases of compression fractures of the vertebrae and stated that if a plaster shell is used, it should extend from the head to the knees, and that healing requires six to eight months. Scudder advises correction by hyper-

extension and support for about six months. He believes operation to be unnecessary. Osgood who is a strong advocate of the non-operative treatment advises recumbency in hyperextension for six to eight weeks. The upright position is then gradually assumed and a spine brace is worn for 10 to 16 weeks. In the last five to six weeks Osgood advises physical therapy and says that a full cure may be expected. Operative treatment, he observes, is rarely indicated, and even in the old cases conservative methods are to be tried first.

In recent years more stress has been placed upon the need of reduction in these fractures. With the patient prone the legs are lifted up by suspension until the pelvis clears the table by several inches. Some traction is exerted in the footward direction. A downward thrust is made upon the gibbus if necessary. A plaster shell is then applied from the head to the knees for six to 10 weeks, this followed by a spine brace.

Dunlop and Parker show most convincing x-ray studies before and after this treatment. Measurements of the films show the bodies to be actually widened and that this increase in width persists as long as 16 months after the injuries with the patient back at work.

Eikenberry states that he has seen 100 of these cases and in not a single case in which a fusion operation was done was the man able to go back to hard work. The only patients who were able to go back to hard work were those who were treated conservatively. The operative method, however, has its advocates. Speed recommends operation in compression fractures of the lower lumbar vertebrae or where angulation is increasing.

NEUROLOGY

OLIN B. CHAMBERLAIN, M.D., F.A.C.S., *Editor*

WHAT IS NERVOUSNESS?

One of the most frequent questions asked in my office is, "Just what do you mean when you say you are nervous?" It is, therefore, with interest that I try to answer the request of the editor that I write a short article with the above caption.

Every-day words used with a medical connotation acquire wide and non-accurate meanings. Words are like coins—they be-

come worn and smooth with use, and their pristine clear-cut nature becomes dulled; they may pass for many uses or meanings. "Rheumatism" and "eczema" are cases in point. There is also another factor which contributes to the confusion. Medical science has itself been very changeable in the conception, relating to the function of the nervous system and the interrelation between mind and matter. Only in comparatively recent years has medical psychology come to understand the relationship of the voluntary and involuntary nervous system—and to appreciate the role of emotion in the personality reactions. Even now, with all our increase of knowledge, our conception of hysteria and other borderland conditions is far from accurate. With these considerations in mind, it is easy to understand that nervousness means much and little. How then shall we separate out the different concepts or syndromes which may be masquerading under the obscure symbol?

First, as to the organic conditions. Nervousness may be the word by which the patient designates an organic tremor or ataxia. Frequently, parents refer to an early chorea by the term in question. "Nervous feelings" may mean sensory paresthesiae of various sorts. I recall an early aphasia of the sensory type due to a tumor of the temporal lobe, which the patient, an intelligent middle-aged woman, described as "nervousness in speech" and ascribed to overwork. One might go on enumerating various obviously organic diseases of the nervous system which bring the patient to the consultation room with the ubiquitous term on their lips. The word is a challenge to exhaust every effort in an endeavor to find out the exact disability the patient has in mind—and to make a thorough and painstaking examination.

Now for a less tangible and perhaps a more common use of the term. It may stand for any mental state or experience, from a real psychosis down to a temporary mood or feeling accompanying an unpleasant experience. I have been told by a tearful mother that her boy was "suffering from nervousness," and enter the next room to cope with the raving and violence of a maniac. Yesterday I saw a "nervous" young man who was a negativistic dementia praecox case. Of course, here the word is used

euphemistically by the parents to avoid the terrifying suggestions of "insane." I remember a helpful neighbor who listened to the history given by the mother, and who drew me aside to whisper as we went up to the patient's room, "That girl ain't nervous; she's crazy."

Leaving the severe mental upsets, we come into the most widespread use of the term. The various moods and continued emotional reactions, especially the anxiety states are almost always labelled "nervousness." Here, as nearly as the writer can understand, the patient signifies by the word his motor unrest and his constant fear-tinged emotional reaction. The individual who is "nervous" over a thunder storm is merely using a word which sounds more grown-up than "scared" or "frightened." Used for such temporary situations the word invariably signifies an emotional storm—usually fear, but often when storms become more or less constant and the anxiety mood becomes, as it were, fixed, we still hear the situation described as "nervousness." I recall a naive young man consulting me for "nervousness." Inquiry showed that the symptom complained of dated from the loss of his job a few weeks before, and brought out the fact that his wife and two small children were dependent upon him. He actually seemed surprised when I told him that he needed an employment agency rather than a physician, and that the only medicine which would benefit him was an adequate pay check.

Cannon and others have thrown great light on the part played by the visceral organs, and the circulatory apparatus in integrating the human organism in its constant adaptations to environmental changes. We have become familiar with the concept of emotion as the consciousness of the "stirred-up bodily processes." The totally miserable bodily feelings arising from the vision of the man about to go over the top and the unpleasant sensations of the chronically worried differ only in degree.

Finally there is something called nervousness which may best be described as bad motor habits. Under this head come the tics and the mannerisms which many individuals suffer from. There are motor habits less important and more reprehensible. I have a medical friend who has deliberately taught himself to jump and wince when the tele-

phone rings. This unquestionably arises from a sort of self-pity and should be sternly repressed.

To summarize—the word "nervousness," although inaccurate and ambiguous—generally conveys the idea of tensions, or the opposite of relaxation. It, therefore, may to the patient stand for any tension, from organic tremors or incoordination to the stirred-up visceral background and tense musculature of emotional situations.

SURGERY

*For this issue, R. B. McKnight, M.D.,
Charlotte, N. C.*

NEGLECTED SYMPTOMS IN ABDOMINAL DIAGNOSIS

The diagnosis of the typical case of any disease is easy. If every case presented the textbook picture, medicine would cease to be an art and become only a fairly well specialized trade. Most thoughtful readers resent having to read the "textbook" papers which so frequently appear in our medical journals. Both have their places. Textbook information is freer from chaff; but it is staler. It seems that journals should supplement, and, to a great extent, anticipate, textbooks.

We seldom see a typical case, and we are oftentimes prone to neglect symptoms not present in the usual case. It is well to direct attention to those symptoms which do not manifest themselves in every case, but which frequently will pave the way to a correct diagnosis. An essay¹ dealing with this subject suggested these thoughts.

Symptoms of shock should be carefully considered. The author states that many of us neglect to make repeated blood pressure readings, which give us necessary information, through the determination of the pulse pressure—the real criterion of vital resistance. The mere presence of pain, is, in itself, of little information; and too often it is considered only in a general sort of way. In acute appendicitis the characteristic shifting of pain from the initial umbilical or generalized abdominal type to a localization in the right iliac fossa is usually observed. This is not so apt to occur in the chronic recurring attacks. A leaking duodenal ulcer, or acute pancreatitis, gives a different type of pain which is more severe in character. Whether

the pain moves upward or downward is of great importance.

Disease of the appendix may cause pain in either testicle. La Roque² believes that retraction of the testicle on palpation of the right abdominal quadrant is pathognomonic of gangrenous appendicitis.

Pain in biliary colic is usually felt in the right subscapular region, as well as in the right hypochondrium, but it must be remembered that this referred pain may be felt anywhere in the zone of distribution of the 8th or 9th thoracic nerve, possibly even in the left side of this zone.

The most common disorder to cause phrenic shoulder pain is perforation of a peptic ulcer, manifesting itself in two out of three such cases. Nearly every case of severe right hypochondriac pain associated with pain on the top of the right shoulder is due to leakage from a duodenal ulcer. Perforated gastric ulcer gives bilateral or left shoulder top pain. Left shoulder top pain also occurs with splenic rupture.

Severe collapse and hypogastric pain with little or no abdominal rigidity, but associated with pain on top of one or both shoulders, are strongly indicative of ruptured ectopic pregnancy or ruptured bleeding Graafian cyst. Cope considers these findings almost pathognomonic of the latter. I have recently observed and operated on a patient with a bleeding ruptured Graafian cyst who presented exactly these symptoms, although the diagnosis was not made until the abdomen was opened. The pain of diaphragmatic pleurisy is usually felt about the clavicle.

If the abdomen is retracted with inspiration the diaphragm is probably inflamed. Slight degrees of psoas rigidity may be detected by extending the thigh and eliciting pain. Pressure of the finger on the femoral artery in Scarpa's triangle to a stoppage of the blood stream will necessarily cause more vigorous pulsation in the iliac vessels and thereby give more intense pain, provided the inflammatory area is in contact with these vessels. This is especially useful in obese patients—a group in which we need all the information we can get.

The author concludes with the assurance that the reward of paying attention to some of these neglected points is an increasing number of successful diagnoses. It is in

point to add that the cause of surgery will be greatly advanced by avoiding needless and possibly injurious operations.

1. COPE, V. ZACHARY, M.D., F.R.C.S.: Some Neglected Symptoms in Acute Abdominal Disease. *Brit. Med. Jour.*, July 18, 1931.

2. LA ROQUE, G. P.: Brittain's Pathognomonic Sign of Gangrenous Appendicitis, *The Amer. Jour. of the Med. Sciences*; CLXXXII; 2; Aug. 1931; pages 191-195.

—217 Professional Building.

OBSTETRICS

HENRY J. LANGSTON, B.A., M.D., *Editor*

CESAREAN SECTION

We shall discuss the subject from the standpoints of how often a cesarean section can be done and when it is not necessary for one cesarean to follow another.

There are many reports of cases in which from two to eight cesarean sections have been performed on the same patient, and all made uneventful recoveries, obtaining live babies. This group should represent the types where it is impossible for the baby to pass through the birth canal alive and there is damage to the birth canal which is irreparable. Where the birth canal is too small, for the passage of the baby cesarean section is the operation to be performed. In such cases, excusing accidents such as hemorrhage and embolism, if they are brought to the hour of cesarean in good condition, there is no reason why they should not come through successfully, because our technic and method of managing such cases have been modernized in practically every community in the Country.

The other group of cases where for some reasons such as abruptio placenta, placenta praevia, prolapsed cord, where the cervix has not completely dilated and there is abnormal position, where there is some doubt in the mind of the doctor that he can help the baby through the birth canal alive; patient has reached the age of 40 and never had a baby, and parents are afraid of risk to mother and baby passage of baby through the birth canal; in all these cesarean section is the operation of choice.

The idea seems to have gotten abroad that once a cesarean is performed it is pretty nearly necessary to have the second, third

and fourth, if such pregnancies occur. In our experience, where we have had to perform cesarean section, for placenta previa, for example, we have subsequently delivered three or four babies by the birth canal successfully, the mothers making uneventful recoveries and the babies developing without any trouble. In a few instances of patients around 35 who were afraid to pass through labor, cesarean section has been performed and subsequently babies have been delivered by the birth canal safely. One idea that is probably the most common is that of fear that the uterus will rupture. We feel there is no ground for this fear. Of course, if there is a whole lot of force used in the delivery, especially if pituitrin is used unnecessarily, rupture may occur. Rupture of the uterus occurs about as often in cases where no cesarean has been performed as in cases where cesarean has been performed. From time to time it is necessary to do a cesarean section on account of what has happened to the products of gestation, and not on account of the size of the pelvis, and subsequently we will have pregnancies in these cases where, when they are properly managed, we can deliver the baby safely through the birth canal without doing any damage to mother.

The scar in the uterus section heals very rapidly, and in several instances where we have had to go into the abdomen for other troubles following cesarean it has been impossible by feeling of the uterus to know just where the scar is located. Also, there is the belief that the placenta may become adherent to the scar. This may occur in any kind of case, and it is probably more common in other cases than it is in cesarean section.

It is not our notion to try to standardize principles which will govern us in the management of each obstetrical case. We believe that this sort of thing has been more or less responsible for the poor results in this field in the United States; whereas, we should make our principles meet the needs of the patient and not the patient meet the needs of the principle. If we practice obstetrics from this angle we believe that more men will become efficient and we believe results in obstetrics would be very much better than they now are.

Then, our conclusions would be as fol-

lows:

1. When the birth canal is too small for safe passage of baby, cesarean can be performed as many times as necessary, provided patient has been well cared-for and she has reached the hour of operation in good condition, and also that the one operating is equipped to do the work as it should be done.

2. In cases where unavoidable accidents have occurred to the products of gestation of expectant mothers, the first section may be necessary on account of the impending danger to baby and mother; but the subsequent pregnancies may be managed, if there is no unusual condition with reference to baby and mother, by delivering through the birth canal. The physician should keep in mind the fact that the patient has had this operation, and, therefore, he should put forth every effort to assist his patient comfortably through the first and second stages of labor, not resorting to extraordinary force by manipulation and forceps or by the use of drugs.

If frequent vaginal examinations are made with the idea of keeping in the forefront of the mind the exact condition of the cervix, we can help these patients through uneventfully.

PATHOGNOMONIC SIGNS IN CHRONIC APPENDICULAR TROUBLES. CHOLECYSTITIS

(Manfred Call, Richmond, in *Bulletin Stuart Circle Hospital*)

The following points to me are pathognomonic of the chronic forms of appendicular trouble. Increased resistance, amounting at times to rigidity of the lower right rectus muscle; tenderness, well defined and circumscribed, over the right iliac fossa; accentuation of this latter finding when the patient assumes the left lateral posture; a circumscribed area of cutaneous hyperesthesia over the right iliac fossa corresponding to the area of definite local tenderness; a definite area of tenderness in the right midlumbar region, midway between the right costovertebral angle and the posterior superior iliac spine.

The incidence of cholecystitis is much higher than is generally supposed. Its chronic forms are responsible for many of the cases of intractable indigestion or dyspepsia. A recognition of the existence of the disease is possible. Preventive, palliative and curative procedures give comfort to many miserable and neglected sufferers. By its recognition, unnecessary surgery on other organs may be prevented, and needful surgery confidently advised.

INTERNAL MEDICINE

PAUL H. RINGER, A.B., M.D., *Editor*

CANCER

It is always a pleasure to read anything from the pen of Dr. Walter C. Alvarez. Incidentally, his book on "Nervous Indigestion" will prove valuable to anyone who studies it. In the *Journal of the A. M. A.* of July 11th, he presents the subject of cancer of the stomach, with particular reference to this condition in 41 physicians.

Dr. Alvarez notes that it is pitiful how many patients, both lay and medical, present themselves with hopelessly inoperable cancer of the stomach. Symptoms of this condition are, of course, notoriously latent and inclusive . . . "but the reading of a few records will show that even when the symptoms are ominous, many persons will evince no concern and will wait for months or years before they seek help. Still more surprising is the fact that many patients who early consult one or more physicians are allowed to drift along and to waste precious time, usually on courses of treatment for what is supposed to be an ulcer or a functional disturbance of digestion."

Dr. Alvarez stresses two things:

"One is to educate laymen to the point where if, in the latter half of life, they begin to suffer with indigestion, abdominal pain or weakness, they will promptly demand a careful roentgenologic examination. . . .

"The other thing that must be done is to keep educating the medical profession until most of the physicians throughout the land realize how dangerous it is to go blindly at the treatment of any illness that comes out of a clear sky, particularly in persons past middle age. The idea must be emphasized again and again that whenever a man or woman, after a lifetime of good health, begins to suffer with epigastric pain or discomfort, or a feeling that food is remaining too long in the stomach, something is radically wrong, and procrastination in the securing of an exact diagnosis can only lead to disaster."

The point is stressed that if physicians are to cure patients with cancer of the stomach, these patients must be diagnosed as cancerous or suspected of having a malignancy before the condition becomes patent to the casual passer-by; and Dr. Alvarez is quite vigorous in his conviction that

"Teachers in medical schools are doubtless partly responsible for the deplorable situation that now exists, because many of them are still showing to their students, not the well-nourished, ruddy, energetic man of 40 with a malignant ulcer which might easily be removed, but the pale, emaciated, weak, apathetic old man with coffee-grounds vomitus and a fixed mass in the epigastrium. . . .

"The mode of onset and the symptoms of cancer of the stomach vary with the degree of sensitiveness of the individual, with the type of the lesion, and with its situation in the stomach. The highly sensitive person will probably become conscious of the presence of the disease earlier than will the insensitive one. A scirrhus cancer, which does not greatly alter the mucous membrane of the stomach may not produce indigestion, and when symptoms do appear they may be only those of general failure and of widespread metastasis. A friable, fungating cancer situated in the fundus or along the greater curvature may give rise mainly to anemia and loss of strength, while a tumor near the pylorus may produce symptoms that are purely those of obstruction."

The relation of gastric cancer to gastric ulcer is discussed, and warning sounded against being too confident that one is treating a benign ulcer. He says:

"Actually, the experience of the last five years has left me overwhelmed with the conviction that when a physician is face to face with a patient who presents a crater-like defect in the roentgenographic outline of the stomach the question in this physician's mind should not be: 'Is this ulcer going to become cancerous?' but 'Is this lesion already malignant?' This is the puzzle that the clinician cannot solve with certainty. . . .

"So far as I know, there are at present but three ways of telling whether or not an ulcer in the stomach is cancerous. The first, and now most commonly used method, is to drift along with medical treatment until the patient either improves or else becomes cachectic and hopelessly incurable; the second is to operate and submit the lesion to a pathologist, and the third is to put the patient for three weeks on an ulcer diet, watching carefully with the roentgen ray for a definite change in the size of the crater."

Ulcers are divided into three types, which are here given:

"Before continuing with the problem of differential diagnosis I think it very necessary to remind the reader that for purposes of discussion cases must first be separated into three groups: (1) Those in which the ulceration is in the duo-

The drought and pellagra

If history repeats itself, poverty and privation, due to the drought, will leave pellagra in their wake this spring—as after the Mississippi flood. Authorities agree that a preparation of yeast rich in vitamine-G (B_2) serves as the best preventive of, and treatment for pellagra. To relieve pellagra during the flood of 1927, Dr. Joseph Goldberger, the U. S. Public Health Service and the American Red Cross employed large quantities of Brewers' Yeast-Harris and Yeast Vitamine-Harris in the Southern States.

Their favorable reports thoroughly justified the use of these products. Brewers' Yeast-Harris and Yeast Vitamine-Harris differ from other preparations of yeast in that biological assay of the output proves them to be uniformly very rich in the pellagra-preventive principle, vitamine-G (B_2), and also in vitamine- B_1 .

As a dietary adjunct, Yeast Bouillon Cubes Harris also furnish a dependable source of vitamine-B complex, containing both factors F and G in the form of a delicious broth.

To treat pellagra, prescribe 2 level teaspoonfuls of Brewers' Yeast-Harris two to six times daily.

YEAST VITAMINE-HARRIS

A Concentrate of
BREWERS' YEAST-HARRIS

Samples on request

THE HARRIS LABORATORIES



TUCKAHOE, NEW YORK

denum. Fortunately, in them the lesion is not subject to malignant degeneration. (2) Those in which the lesion is in the stomach and the symptoms come more or less suddenly out of a clear sky. The older cases in this group commonly have cancer when first seen. (3) Those in which the lesion is in the stomach, and the patient has suffered with hunger pain intermittently for 10, 20, 30 or 40 years. In such cases one can be fairly certain that the ulceration was benign to begin with, whatever may have happened to it later."

Finally, Dr. Alvarez takes up in detail the case histories of the 41 physicians coming to the Mayo Clinic with definite or suspected gastric cancer, all of whom were operated on, so that the chance of error was ruled out. It is not possible in an abstract of this length to go through these cases, but they are exceedingly interesting. One comment, however, is rather important.

"Perhaps he did not think of cancer of the stomach because he was only 45 years of age. He did not know that one of every nine patients with cancer of the stomach is less than 45."

In commenting upon these 41 cases, Dr. Alvarez points out that the question of ulcer intruded itself into the diagnosis of cancer of the stomach in 21 of the cases; in four, the pre-operative diagnosis was gastric ulcer; in another it was appendicitis; in another it was gastric ulcer, probably malignant; in another it was lesion at the pylorus, possibly syphilitic; and in another lesion of the pylorus.

Dr. Alvarez says further:

"Surely anyone who can read these records and can then say that there is no cause for worry in the treatment of gastric ulcer has a mind that is impervious to evidence of any kind.

"So long as most physicians are willing to treat epigastric pain in older persons expectantly and without consultation with expert roentgenologists, and so long as they are willing to treat gastric ulcer medically without fortnightly roentgenologic supervision, there can be no hope of lessening the mortality from cancer of the stomach. . . .

"In the presence of a defect in the gastric outline, the question before the physician is not: 'Can I run the slight risk of allowing this ulcer some day to become cancerous?' but 'Can I run the big risk of treating this possible cancer as an ulcer?'

"It seems obvious that the only way in which one can hope to cure cancer of the stomach is to excise it during the stage in which it looks and behaves like a benign ulcer. It would help much if every disturbance of digestion that appears sud-

denly in a middle-aged or elderly man or woman would be looked on with grave suspicion. It is the patient with the short history that the experienced gastroenterologist has learned most to fear."

As a corollary to the preceding article, I mention one appearing in the July number of the *Annals of Internal Medicine* entitled "Early Diagnosis of Neoplasms of the Digestive Tract," by Dr. Thomas R. Brown, of Baltimore, in which he takes up also the question of cancer. He points out that there is no group of diseases in which therapy has been so bitterly disappointing as the malignant new growths of the digestive tract; and it is but a few years ago that Boas said: "No one can make an early diagnosis of digestive cancer—one must be satisfied with a correct late diagnosis."

Dr. Brown while recognizing the necessary period of latency in the development of any neoplasm, has reached the conclusion in the 18 years that his clinic has been in operation—

"That a relatively early diagnosis is possible in many cases, antedating by months, and sometimes by a year or more, the time when the diagnosis had been finally made, and that in many cases it was this fatal delay that spelled the difference between hopelessness and potential success.

"Cancer is met with more frequently in the digestive tract than anywhere else in the body; it is definitely on the increase, an increase not to be explained by better methods of diagnosis or by the steady increase of the average age of man, but a true increase apparently due in some way to the accidents and incidents peculiar to an increasingly complex civilization. Is it due to new forms of trauma? Is it in any way due to increasing mental and nervous strain? Does our modern diet play a role? No one can prove that it does and yet Hoffman has found marked infrequency of digestive cancer among the primitive tribes of South America; McGarrison meets with practically no cases in the 400 to 500 abdominal operations that he has performed yearly on the natives of the hills of Northern India; and Lane is firmly convinced that excessive consumption of meat, especially pork, and lessening intake of raw and rough foods with its inevitable lessening of motor activity of the large intestine, play a major role in the etiology of neoplasms of the digestive tract."

With it all, the essential cause of malignant disease is not known; neither is there any known way of preventing its development, and until these two problems are solved the only hope for a patient lies in

GENERAL HOSPITAL . 100 BEDS . FIREPROOF BUILDINGS

DAVIS HOSPITAL STATESVILLE, N. C.

Complete Clinic all Departments
including
Eye, Ear and Throat, Bronchoscopic
and Physiotherapy Departments

TRAINING SCHOOL FOR NURSES

relatively early diagnosis and early and bold surgery. With reference to cancer of the stomach, successful removal is possible; but to make this possibility a reality, early diagnosis is essential.

"In making this early or, if you will, relatively early diagnosis—for the life span of gastric cancer is possibly not the usually accepted one-half to one and a half years but from one to three or four years, and what we regard as the first act is in reality the second or third—the history of the case is of more importance than any or all other factors, for after all, unless we suspect, we will not thoroughly investigate.

"In an analysis of all our cases of gastric carcinoma for a period of 15 years, less than 5 per cent gave a previous history suggesting ulcer, about 10 per cent had had previous vague gastric symptoms, 85 per cent had had absolutely no previous digestive symptoms and it must be this fact—this development de novo of digestive symptoms, usually, but not always in persons of middle or later life, coming on with no obvious cause and not yielding to symptomatic treatment—that at the present writing at least is our one most valuable means of suspecting or diagnosing gastric cancer and in making us pursue those intensive studies—gastric contents for dropping acid or achlorhydria with special

studies as to the soluble protein contents, stool for occult blood, radiography and, especially, repeated and careful fluoroscopy—which in most cases should give us our diagnosis and tell us whether we are dealing with cancer or with one of those conditions with which it is most likely to be confused, chronic biliary tract disease, gastric lues, atypical ulcer or pernicious anemia. The tragedy of gastric cancer in that its seat of election is not pylorus or cardia, but in the vast majority of cases the *lesser curvature*, the silent area, where it may grow for a surprising length of time and reach a very considerable size before producing symptoms sufficient to make the patient consult his physician. These symptoms are in no wise characteristic or even suggestive in themselves—usually a slight loss of appetite, some discomfort or fullness, sometimes pain, occasionally slight nausea, in other words those of an ordinary banal dyspepsia—but, and this is the crux of the matter, appearing without cause and not disappearing under appropriate symptomatic treatment."

Dr. Brown notes that it is not possible to tell from the size of the growth or the length of the history whether it is operative. Some cancers metastasize early while others do not. To quote Dr. Brown again:

"I am more and more convinced that it is wiser to operate on a well-grounded suspicion than to wait for a diagnosis."

In his clinic they have had no success whatever with any other form of therapy, such as radium, x-ray, colloid lead, or colloid selenium—surgery has been the only thing that has been of any use. Dr. Brown is convinced that there is no test, no laboratory method

"that is as valuable in diagnosing gastro-intestinal neoplasms as a careful analysis of the history of the case—discarding no symptom because it may seem insignificant. It is upon the *art*, not the *science* of medicine, that we must lean, that nice balancing of the facts, that keen judgment in their interpretation, that careful weighing of cause and effect, in other words, those highly developed qualities that spell the real clinician. With this as our foundation, we can make a surprising number of relatively early diagnoses if we utilize in addition all the other means at our command, especially careful palpation, the study of gastric contents and stool, the use of instruments for direct study and the x-ray, especially fluoroscopy."

The main thing that should arouse our suspicion as to possible malignancy is the appearance of digestive disturbances *de novo* where there has been no history of their previous occurrence and where they have not yielded quickly to symptomatic treatment.

Naturally there is a certain amount of repetition in commenting upon papers of a similar nature from two of the leading gastroenterologists of the country. It is gratifying, however, to see how closely they agree in their points of view. Anyone reading these papers cannot fail to be impressed by them and also to be benefited. The editor suggests that each one wishing to have a better knowledge of the most modern views on cancer of the stomach and alimentary canal, can secure a reprint of these valuable publications from Dr. Walter V. Alvarez, Mayo Clinic, Rochester, Minnesota, and Dr. Thomas R. Brown, 12 East Eager Street, Baltimore, Maryland.

Concerning the treatment of electric shock (McGANDY in *Minnesota Medicine*, Aug. 1931) the only measure holding any hope is apparently artificial respiration. This should be instituted immediately and kept up until the patient survives or rigor mortis sets in.

GYNECOLOGY

CHARLES R. ROBINS, M.D., *Editor*

CONSERVATIVE GYNECOLOGY

A very interesting paper with this title was presented by Dr. Guy L. Hunner at the meeting of the Southern Medical Association last year. The trenchant way in which Dr. Hunner presents his facts makes us all stop and consider. Take for instance this sentence, "I believe every serious and conservative surgeon of experience who has at heart the welfare of the public no less than that of our guild, must agree that a vast amount of the operating of today is unnecessary and cannot be classified as true and lawful surgery." This, of course, is a very broad and wholesale condemnation but may be not as undeserved as it at first sounds.

The wonderful results obtained by surgery in a sense may be its own undoing. The glamor of these results and the spectacular nature of their performance have affected both patients and doctors. Patients have changed a great deal in a score of years. Formerly it was difficult to get their consent to the most obviously necessary operation. Now it is quite common to find them imagining that they have some obscure malady which a surgeon can cut out. They not only desire an operation but often, by listening to others who have been operated on, they have learned to describe symptoms which might deceive the most wary. While this exaggerated class is not large, the willingness to submit to an operation if it promises relief from a long continued train of symptoms or from anticipated dangers is quite general.

The medical student is likewise caught by the same glamor. When he can contrast the quick and dextrous cure afforded by the surgeon he contrasts it with the often tedious processes of medicine and is attracted to surgery. He has a feeling that, if he can learn to operate, then he will be able to really cure. However, medicine cannot escape the toilsome and tedious. Neither medicine nor surgery can be successfully applied unless they are preceded by a careful and complete diagnosis, and this cannot be arrived at without adequate training. To the surgeon the operation should be merely his armamentarium to be used after the patient



THE BABIES HOSPITAL—just across the sound from WRIGHTSVILLE BEACH, N. C.

It is a modern fire-proof hospital for infants and sick children, with accommodations for the mothers who desire to stay with their babies. There is a milk station in the hospital where infants outside of the hospital may obtain milk formulas. The salt air and pure sunshine is very stimulating to the undernourished child with poor appetite.

A four-months post-graduate course given to graduate nurses interested in pediatrics

Pediatrician-in-Charge—J. BUREN SIDBURY, M.D.

has been thoroughly and impartially studied. When a patient comes to the hospital, sufficient time must be taken for this purpose, adequate tests must be made, and, above all, the real gynecologist must cultivate that judicial frame of mind by which he can determine in an unbiased way of what the patient is really complaining and the pathology that underlies the complaint. Next he should be able in an impartial way to select the treatment that offers the best results.

How different this attitude is from that of the gynecologist who seeks first to find patients on whom his selection of operations may be performed.

I believe, however, that we have turned into a better era. Dr. Hunner is himself an evidence of that. With a strong surgical instinct he has become so much impressed with the evil consequences of indiscriminate operations that he raises his voice to compel an adequate diagnosis. All of our important surgical clinics devote the greater part of their time to diagnosis and it is only a question of time when every hospital will be required, both by inspection and by the force of public opinion, to provide adequate protection for its patients in the way of accurate diagnosis and wisest choice of methods of cure.

Doctors as a rule are conscientious and they need only to be shown the way and they will follow it. Conservatism is to do the right thing. The most conservative treatment for appendicitis is to remove it. This con-

serves the patient's life and health. But to remove the appendix when the fault lies elsewhere is to damage, not only the patient, but also the doctor.

THE ADHESIVE BANDAGE IN TREATMENT OF VARICOSE ULCER

(C. F. Dixon and F. L. Smith, Rochester, in *Minn. Medicine*, Aug. 1931)

The elastic, adhesive bandage may be applied directly over the ulcer or a piece of plain gauze placed over the ulcer before the bandage is applied. It is well not to change the bandage for several weeks, particularly if the ulcers are large, unless the patient experiences discomfort, which is rare. However, a new bandage may be applied every week or two without hindrance to healing. If the limb is markedly swollen, the first bandage should be applied when the swelling is at a minimum; for example, in the morning.

HISTORIC PHASES OF APPENDICITIS

(D. C. Collins, Rochester, in *Annals of Surgery*, Aug. 1931)

In 1827 Melier, a French physician, presented a classic description of appendicitis and stated that it could cause primarily the lesions found in disease in the right lower quadrant of the abdomen. However, Dupuytren, the leading French surgeon of his day, together with his pupils, Husson, Dance and Meniere, disagreed with Melier's statements and held him up to ridicule before French physicians. Melier being a comparative youth, retracted his statements, and, as a consequence, medical advancement in regard to appendicitis was retarded for another period of 50 years.

THERAPEUTICS

FREDERICK R. TAYLOR, B.S., M.D., *Editor*

THE MANAGEMENT OF THE PATIENT SHOWING THE EARLY STAGES OF A GRADUAL ONSET OF HEART FAILURE

One of the most frequent duties of the physician is to advise a patient who is beginning to show the signs of a gradually weakening myocardium, or who, in other words, evinces the early signs of chronic heart failure. How shall we advise him and treat him? Of course as in every patient, our advice must be based on a careful, thorough examination which will suggest to us various causes, ultimate or intermediate—usually the latter, that should receive consideration. Often hypertension will be found to be a factor. Sometimes, however, the blood pressure will be normal or below normal. It is of importance to consider the heart in relation to the blood pressure. For example, a "normal" pressure according to orthodox figures, may be a definitely *high pressure for a failing heart*. This, however, is seldom if ever seen in the early stages of gradual heart failure—it is a phenomenon noted rather in very late stages with extreme grades of decompensation.

The two great types of heart failure are, of course, congestive and anginal. The medicinal treatment will vary to a considerable degree with the type, but the general management of the early stages of both types will be much alike.

Probably the most important thing is to use every effort to keep the heart from a double failure, a physical and a metaphorical one—in other words, to keep up the patient's morale. How best to do this will vary in some measure with the psychology of the doctor, and more with the psychology of the patient. Certain basic principles apply, however. In our opinion, Polyanna stuff has no part in medicine. The true physician does *not* cry "Peace, Peace," when there is no peace. Neither does he paint a black picture under ordinary circumstances. Rather he sees the facts, faces them, and then puts the best construction on them that the facts can possibly warrant. He shows the patient with a weak heart that in most cases careful adjustment of his life to the strength of his heart will yield the rich prize of years of

comfort and happiness. He insists to the patient with a slight congestive decompensation that this does not forebode any sudden catastrophic accident—he does *not* have a dynamite bomb inside of him which is likely to blow up at any moment. If such an accident threatens, as may be the case in anginal conditions, he warns the family, but merely contents himself with special urging of care on the part of the patient, unless the patient is so foolhardy as to need a good scare, in which case it may be the physician's duty to throw the fear of God into him.

Rest is of course the first essential in treatment. When it can be taken, a few weeks of absolute bed rest is imperative. This, however, cannot always be had! Economic situations may make it impossible. What then? Abandon rest entirely? By no means! Go into the daily routine of the patient's life. See where he can snatch an hour here or a half-hour there. See how his work can be made less fatiguing. Teach him to utilize his week-ends and holidays to rest.

What is rest? Merely lying in bed? No, not if that lying in bed means tossing around in anxiety and worry for the future. Make the rest program practical enough to be possible for the patient to carry out without wrecking his finances or taking all the joy out of life. Worry will kill him more quickly than anything else. Some men are going to drop in harness, and will live longer and be happier that way than they would in a life of invalidism. Certain drugs are helpful in obtaining physical and psychic rest—such drugs as the bromides, carbromal (known more familiarly under the trade name of adalin), and a number of the other mild hypnotics or sedatives. The recent product sedormid seems to be both effective and free from depressant effects. The barbituric acid group often tends to form something of a habit, though occasional resort to one or another of its members is fully justified. We are discussing now only the *early* stages of heart failure. Later on codeine freely and even morphine may be necessary.

For the congestive type, digitalis is the drug *par excellence*. In the early gradual type of failure, small tonic doses are indicated. We have discussed digitalis in an earlier editorial. For the anginal types, the nitrites during attacks, and one of the theo-

The Tulane University of Louisiana
GRADUATE SCHOOL of MEDICINE

Approved by the Council on Medical Education of the A. M. A.

Post-graduate instruction offered in all branches of medicine.

Courses leading to a higher degree have also been instituted.

A bulletin furnishing detailed information may be obtained upon application to

THE DEAN

GRADUATE SCHOOL OF MEDICINE

1430 Tulane Avenue, NEW ORLEANS, LA.

bromine group between attacks are worth while.

With all these methods, the priceless ingredient is a militant optimism on the part of the physician that is based on a facing of facts rather than a dodging of them, an optimism that is contagious and will spread to the patient. This quality to the *n*th degree, plus a keen mind and a lifelong devotion to study, made Sir James Mackenzie the great "beloved physician" that he was, and enabled him to bring comfort and healing to many where lesser men would have failed. Even in himself, with the angular type of failure, knowing full well the treacherous nature of that type, he kept up his courage, took what exercise he felt he properly could—gradually cutting down the number of holes of golf until he played only one hole a day, and then finally "put his beloved clubs away" but continued to live a life full of interest and brilliant service until the final summons came to join the innumerable caravan.

HEAD MURMURS

(The Lancet, London, July 18th, 1931)

As long ago as 1833 Dr. John Fisher suggested that auscultation might prove an important means of diagnosis of cerebral diseases.

Systolic murmurs may be heard during the second year of life, and not infrequently below this age. In healthy babies, they are seldom heard after the age of four, and almost never persist into adult life. The way in which they arise is not exactly explained. Hamburger, however, feels sure that they are without pathological significance, and sug-

gests that frequent examination for them would more often demonstrate their presence. The second group of murmurs are those accompanying arterio-venous aneurysms, and though rare, they are well recognized as arising either from trauma or "spontaneously," in which case they are often congenital. The latter group may be due to aneurysmal angiomas; the former may result, as in cases of pulsating exophthalmos, from a communication between the internal carotid artery and the cavernous sinus following fracture of the base of the skull. Such, however, are real surgical rarities. A third group of murmurs are those found with intracranial tumors, but they are exceedingly rare. Whilst in uncomplicated intracranial aneurysms a murmur is almost never present, occasionally there may be vascular communications between the external and internal blood-supply of the skull, producing a murmur on auscultation. In the final group of cases head murmurs are conducted from the carotids, and include those occurring in severe arteriosclerosis, in exophthalmic goitre, and sometimes with valvular disease of the heart. These may be noticeable to the patient as well as to the observer.

As a rule the detection of a cephalic murmur is of academic rather than practical importance, though in the diagnosis of arterio-venous aneurysm or angiomas it may be of great value. A revival of cephalic auscultation, in the absence of a full realization of its limitations, would add to the anxieties of practitioners, without much increasing the information at their command.

Blocking the phrenic nerve will differentiate a thoracic from an abdominal cause of pain. When 10 c.c. of .5 per cent novocaine is injected above the clavicle, the pain of thoracic lesions subsides.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D., *Editor*

SOME FACTS ANENT HYPERTENSION

The literature on hypertension is constantly growing. What its cause is, no one can say. So far no specific treatment has been found, though almost daily a detail man brings the glad tidings that a remedy has been found that will control high blood pressure. In the mass of literature dealing with the subject, it is a wholesome corrective to the enthusiasm of some writers to read the sensibly skeptical articles of Ayman, of Boston. This first appeared a year ago, in the *Jour. A. M. A.*¹, and dealt with the danger of being misled by the psychic effect upon the patient of a new treatment. He told of a series of patients treated by 10-minim doses of dilute hydrochloric acid, who were assured, truthfully, that it was the very latest treatment for hypertension. The great majority of them obtained symptomatic relief, and a few developed untoward symptoms attributed by them to a too-rapid reduction in their pressure.

The second article² deals with fallacies in the interpretation of blood pressure reductions. One source of error is ignoring the lability of the blood pressure, which is usually lower in the morning than in the evening, is lower after a rest, is apt to be elevated by a disturbing thought, and may be elevated during menstruation. Furthermore, the diastolic pressure may vary as much as the systolic. Another factor to be considered, says Ayman, is the hypertensive personality. He thinks that the hypertensive patient is a more intense type of person than the average, and reacts with greater fluctuations of pressure than the normal man. Again, he says, the effect of the rest period that often accompanies the use of a drug may have far more to do with the fall in blood pressure than the drug. Then, too, the greater frequency of the doctor's visits while the patient is under observation accustoms him

to having his pressure taken, and is apt to give a lower average reading.

One may or may not accept all these observations, but he must at least admit that they are worthy of profound consideration. It is well to temper enthusiasm for a highly-advertised new remedy with a little wholesome skepticism.

Another very sensible discussion of the hypertension problem is by Dr. David Riesman, of Philadelphia, "High Blood Pressure and Longevity"³. His concluding comment is better than the average sermon. He says that hypertension is a disease of American life, and that its causes are "connected with our striving for wealth. We have created false standards, have deprived ourselves of peace and leisure, and have lost the art of living wisely."

"The Effect of Intrathoracic Pressure on Arterial Tension" is the title of an article by Dr. Eli Grimes, published in the *Archives of Internal Medicine* for June. It is a model of careful, patient clinical research, extending over a period of 20 years. In 1910 Grimes found that if a subject blew into a manometer tube until the mercury registered 40 to 60, and continued his effort long enough, his systolic pressure would fall to 0, due, he thinks, to emptying the blood from the heart and thoracic vessels. Then three or four deep respirations would cause the blood pressure to rise 50 to 150 above the normal. Grimes conceived the idea that the height of this rebound might be an index of the elasticity of the blood vessels and that it might be of prognostic value. After determining by repeated tests that a normal rebound would not exceed 165 systolic, he listed the names of 100 subjects who had a rebound of 190 or more, and a normal control group with a rebound of 165 or less. He read a paper before the Des Moines Medical Society in 1910, telling of this experiment. Twenty years later he is able to give the fate of his two groups. Of the 100 with a normal pressure, only 12 have died, none with a circulatory disease. Of the 100 with the higher rebound, 32 have died—4 of apoplexy, 4 of angina pectoris, 12 of nephrosis, and 2 of myocarditis.

As a corollary, this experiment explains the mechanism of apoplexy. Instead of oc-

1. AYMAN, D., An Evaluation of Therapeutic Results in Essential Hypertension: I. The Interpretation of Symptomatic Relief, *Jour. A. M. A.*, July 26, 1930, p. 246.

2. AYMAN, D., II. The Interpretation of Blood Pressure Reductions, *Jour. A. M. A.*, June 20, 1931, p. 2091.

3. *Jour. A. M. A.*, April 4, 1931, p. 1105.

curing during an intense straining effort, it will happen soon after, with the rebound in pressure that comes with the deep inspirations following the effort.

This work of Grimes reminds one of the patient observations of Sir James Mackenzie, which he called his "wait-and-see method," and which added so much to our knowledge of the heart.

CABLE MARIE STOPES

Apropos of the very live topic of birth control is this little story now current in our neighborhood, which has the merits of truth and originality. A young lady of three told her mother that she and Billy, the four-years-old boy who lived next door, had decided to get married and live in the room over the garage. Her mother objected that the room would be too small, but the little girl stood pat. Finally the mother asked, "But what would you do with your children?" Quick as a flash came the answer, "We aren't going to have any children. Billy says if I lay any eggs, he'll step on 'em."

PEDIATRICS

GEORGE W. KUTSCHER, JR., M.D., *Editor*, Asheville

CONGENITAL ATELECTASIS

To the general practitioner doing obstetrics as well as the obstetrician, all too often comes the problem of handling a case of congenital atelectasis. Recently a most instructive case was observed, the case history of which follows:


Because of a previous cesarean section this baby was delivered at or near term, the mother not having gone into labor. The previous child died suddenly during its first day of life, with symptoms similar to those of this baby's condition. The mother's Wassermann was negative. This child, when delivered, was resuscitated with difficulty. When first seen within an hour after birth, it was apparently breathing satisfactorily, but was cyanotic. No evidence of intracranial hemorrhage could be elicited; the cistern tap was negative for signs of hemorrhage. Breath sounds were clearly heard over the entire chest, no change in the percussion note was demonstrable. During the examination the child became quite cyanotic, ceased breathing. Mucus was aspirated from the throat and trachea. Artificial respiration and the use of mouth-to-mouth insufflation seemed to stimulate respiration again. Ten per cent CO_2 in 90 per cent

Montague Hospital

Exclusively for
**RECTAL
and
COLONIC
AILMENTS**

*Offering special
facilities for the
diagnosis and
treatment of rec-
tal and colonic
diseases.*

36th St. East of
Lexington Ave.
**NEW YORK
CITY**



oxygen was then administered for 10 minutes until cyanosis disappeared. An x-ray picture was then taken. Several dyspneic attacks with deep cyanosis occurred on the way to and from and during the visit to the x-ray department. The child died after living $4\frac{1}{4}$ hours. During that time drug stimulation, repeated CO_2 and oxygen inhalations, as well as other means of resuscitation proved of no lasting benefit.

The x-ray picture presented an unusual effect in that the cardiac shadow was discernible (Normally the cardiac shadow is only demonstrable because of the contrast afforded by the presence of air in the lung tissue). The x-ray showed that both lungs were completely collapsed. The size of the thymus appeared normal.

Necropsy confirmed the x-ray findings. The pathologist estimated that no more than one cubic inch of lung tissue had been expanded. The functioning portion of the lungs, along the periphery of the lower border of the base of both lungs, was pink in contrast to the deep red of the collapsed or unexpanded portion. The lung tissue did not float in water. The heart was normal both as to size and valves. The reason for this state of atelectasis was not determined. There was no obstruction to the respiratory system. The breath sounds probably represented the current of air rushing through the bronchial tubes.

Congenital atelectasis is the failure of the whole or a large portion of the lung tissue of a newly born to properly expand. There are congenital and acquired types; only the former will be described here. It is a frequent congenital mishap and is seen following long hard deliveries, in the premature, associated with asphyxia, also in connection with cerebral hemorrhage.

The condition is probably due to a failure of the respiratory center. It is well known that this center is not as sensitive to the stimulation of CO₂ content of the blood during the first few days of life as it is later on. It is thus easily understood why the lungs of the newly born are not completely expanded at the first breath but expand gradually over a period of days. At necropsy (death resulting from other causes), 3-weeks-old infants have shown incompletely expanded lungs when no sign or symptom of atelectasis was evident during life.

Cyanosis is the outstanding sign of this condition. It is usually intermittent and often quite intense. It appears shortly after birth and is associated with dyspnea. The respiratory rate is increased and the excursions shallow—at times almost imperceptible. These infants are usually quite relaxed, and have not cried, or do not cry lustily with ordinary stimulation. Convulsions may ensue. The chest walls may be retracted during inspiration. Immobility of certain portions of the chest wall may assist in locating the unexpanded portion of the lung. Dyspnea is pronounced when present.

Despite what would be expected, and even the statements of some textbooks, the physical examination of the chest rarely reveals any evidence of the condition. The preceding case history is typical of other experiences. In that case the breath sounds were distinctly heard by three different examiners of that particular child's chest. Percussion likewise is usually negative. The diagnosis in many cases must depend upon x-ray for confirmation.

The prognosis is fair and improves according to the availability of CO₂ and oxygen. A tank of CO₂ (10%) and oxygen (90%) can be connected to a paper cone by means of rubber tubing, the cone placed over the child's nose and mouth and a perceptible flow of gas administered

for 10 minutes every hour. The cyanosis disappears and the child cries. This plan of treatment is repeated until the child cries lustily and the cyanotic attacks disappear. Henderson recently advocated the routine prophylactic flushing of the lungs of all newly born infants with CO₂ and oxygen. He maintains it not only prevents atelectasis but pneumonia as well.

Artificial respiration in the severe cases where the lungs have never expanded is futile. The mechanism of such movements provides compression to deflate an already expanded lung, but it cannot expand an uninflated lung. The pressure over the chest wall during such maneuvering does more damage than good.

The mucus lodging in the trachea and larynx should be aspirated to prevent obstruction. The milder cases can often be handled by such means as mild spanking, hot and cold baths, mouth-to-mouth insufflation and sprinkling of ether on the back. In persistent cases pneumonia is to be feared. The child's position should be changed frequently.

The two most frequent causes of sudden death in young infants are bronchopneumonia and atelectasis.

UNUSUAL MIGRATION OF A FOREIGN BODY

(Evans, W. A., Detroit, in *American Jour. Roentgenology and Radium Therapy*, June, 1931)

A puncture wound had been received and a foreign body was suspected. Roentgen films limited to the immediate area of injury demonstrated a metallic sliver some 5 cm. in length lying in the abdominal wall at right angles to the spine.

Removal of this was attempted within 24 hours, no further examination being made. Thorough search of the field was unsuccessful and the patient was returned for additional roentgen studies. Again the study was limited to the region of the point of entry, with negative findings. Then the entire abdomen was included in the study and the foreign body was seen to be in the lower left pelvic cavity. The question arose as to whether the piece of metal was free in the abdominal cavity or had entered the intestinal canal, and the patient was hospitalized for closer observation. Nothing of interest developed until the end of the fourth day when the piece of metal was recovered from the stool. This report is made to emphasize the necessity of localization of foreign bodies *immediately* before attempted removal.

PUBLIC HEALTH

G. M. COOPER, M.D., *Editor*

FAMILY DOCTORS IN DISEASE PREVENTION

In 1914, the first year during which the newly organized Vital Statistics Department of the State Board of Health functioned efficiently, there were reported 839 deaths from typhoid fever in North Carolina. In 1930, sixteen years later, 141 deaths were caused by typhoid. The population of North Carolina in 1914 was only 2,200,000; in 1930, 3,170,276. The 1914 typhoid death rate was a little over 35; in 1930, 4.4, per 100,000. With one or two exceptions the rate has been declining constantly during these years.

Among the causes are safe milk, pure water, sewage facilities in the villages, towns and cities, screened houses, and more sanitary arrangements around the farm homes. Vaccination against typhoid fever has undoubtedly contributed greatly toward its elimination.

The purpose of this article is to call attention to what might be called an intangible factor but, nevertheless, an important one. The reference is to the work of the practicing physicians in the State during the early years of this century.

As every old-timer knows, it was common practice 25 years ago for every practicing physician in the State to be called upon to treat a large number of typhoid cases every year. While the largest number occurred in the summer and fall months, there was scarcely a month but what almost any physician with a large practice was treating one or more typhoid patients. Hundreds of physicians were called upon to treat whole families prostrated with the disease. One or more deaths in all such groups always occurred. A large number of the patients treated were people in moderate circumstances, if not downright poor. The main burden fell upon the doctor. Hospitals were widely scattered and few trained nurses could be had at any price; so it devolved upon the physician to assemble the neighborhood to help, to assure the patients would be waited on; it could not be called nursing them. The physician had to go out and procure such necessary items as towels, sheets, and so on. He had to solicit contributions of necessary food supplies from grocers and charitably

inclined citizens. Often he had to pay for these and whatever medicines were used out of his own pocket.

It was very rare that any of these people were ever able to repay the physician for the supplies that he furnished, let alone to pay him for his services. Therefore every active practicing physician, consciously and unconsciously, became an exponent of public health in so far as it could be directed toward doing away with typhoid. So, when the State Board of Health inaugurated its educational program early in the second decade of the century, and when the organized health departments were being formulated throughout the State, it was found that the groundwork had been well laid by the practicing physicians everywhere, and that the people were ready to listen to the advice and suggestions of health authorities when called upon to protect themselves.

The educational work and the sacrifices made by untold numbers of physicians in those days had much to do with the acceptance on the part of a sufficient number of people of the methods which have since been put into practice and which have resulted in the constant decline of typhoid. It is hardly necessary to add here that vigilance is still needed in this respect, as typhoid fever will continue for a long time to be real menace to the people of the State.

If the effect of educational work done by physicians with reference to typhoid fever could be so successful, is any man in a position to deny that the same thing could be accomplished if and when the whole body of practicing physicians in North Carolina should turn their attention toward the control of such preventable diseases as, for instance, the summer diarrhea of infants, with the same persistence as they did in their typhoid work, that the same results could be definitely expected?

USE OF SULPHUR TO PRODUCE FEVER

(MacKay, R. P., *Chicago, in Archives Neurology and Psychiatry*, July 1931)

Sulphur in olive oil, when injected into the muscles of the outer part of the thigh, produces a high fever, lasting from 36 to 60 hours. Fever produced by injections of sulphur seems capable of effecting the same therapeutic results that any other form of fever can produce. It is chiefly of value in cases of dementia paralytica in which malaria is indicated, and in many ways is superior to malaria.

BOOK REVIEWS

HEART DISEASE, by PAUL DUDLEY WHITE, M.D., Instructor in Medicine, Harvard Medical School; Physician, Massachusetts General Hospital, Boston. *The MacMillan Company*, New York, 1931. \$12.00.

Features of special attractiveness in Part I are a comprehensive discussion of heart pains, including those felt in the abdomen, head and extremities which are of cardiac origin; emphasis on the value of first impression in the general examination; methods of timing heart sounds; the significance of murmurs; the consideration of cardiac roentgenology and electrocardiography.

Part II is devoted to incidence, causes and types. It is stated that probably 2 per cent of the population of the northern part of the U. S. have heart disease capable of producing symptoms or signs. Many factors in the incidence of heart disease remain undiscovered. "Rheumatic" heart disease is the commonest of all types. Neither the cause, nor portal of entry, of the organism has been established. Why syphilis attacks the aorta more frequently than other arteries, or the myocardium, is, likewise, unsolved. How frequently myocardial or endocardial damage comes from a focus of infection we do not know. The heart as affected by disease of the glands of internal secretion affords material for a chapter of importance second to none; as do hypertensive heart disease and congestive heart failure.

Functional disorders are carefully differentiated from those dependent on organic change. The situation as to angina pectoris is characterized as appalling and demanding concerted action on the part of doctors. The frequency with which premature beats and paroxysmal tachycardia give rise to unwarranted fears invests these conditions with importance. Auricular fibrillation and flutter, quinidine therapy, ventricular fibrillation and heart conditions due to unusual depression conclude the book.

The author's unusual opportunities for learning about heart disease have been improved and the results set forth in a plain, attractive manner. A number of case reports and other illustrative insertions are made use of in an effective way. The author has made a real contribution to the literature of

heart disease and given a stimulus to the making of further additions to the sum of this knowledge.

MEDICAL JURISPRUDENCE, by CARL SCHEFFEL, Ph.B., MD., LL.B. *P. Blakiston's Son and Company, Inc.*, Philadelphia. 1931. \$2.50.

This volume, taking an opposite view from that of most works on medical jurisprudence, aims to make it familiar to the doctor how legal factors affect him in his professional labors and as a sociologic unit in the community. Its dealing with the contractual relations of doctors is clear and concise, and covers such important matters as the doctor's liability in rendering care in maternity cases, collection of his fees, liability of husbands, wives and children for services rendered one or the other. Many tricks found in collection agency contracts and insurance contracts are exposed.

The section warning against partial payment buying is well worth the price of the book.

When a doctor is an agent and when he is an employee, when others are his agents, when employees and when independent contractors, relationships with locum tenens and consultants, qualifications legally required of doctors, scope or services—are all well covered.

What mistakes to guard against in gaining consent to perform a surgical operation or make a post mortem examination, and what form to have a patient sign who is leaving hospital or dismissing the physician against advice make information of value. A perusal of the chapter on Witnesses and Evidence will reward handsomely. Property Interests of Physicians are regarded as well worthy of careful consideration. The next chapter undertakes to keep doctors, as respondents, out of the criminal courts. The concluding chapter urges that doctors maintain an acute interest in law-making. The statement is made that hundreds of statutes, fostered by doctors, are passed annually, which have no other effects than to penalize some of our own professional brethren. Laws specially affecting, or of special interest to, doctors are discussed after a most comprehensive fashion, and many changes advocated.

Careful study of this book by doctors will

yield information which can not fail to lessen the number of malpractice suits and costly contracts, enable them to appear to advantage and aid the cause of justice as witnesses in court, greatly improve medical statutes, and advance the cause of honest, capable Medicine in a multitude of ways.

MODERN PROCTOLOGY, by MARION C. PRUITT, M.D., L.R.C.P., S. (Ed), F.A.C.S., Atlanta, Ga., Associate in Surgery, Emory University School of Medicine; Assistant Visiting Surgeon, Grady Hospital; Proctologist, Crawford W. Long Memorial Hospital and Clinic, Georgia Baptist Hospital, and Anti-Tuberculosis Association. 233 Illustrations. *The C. V. Mosby Company*, St. Louis, 1931. \$8.00.

The anatomy is given in the order met with in examining a patient; the physiology, also, from the viewpoint of the clinician. Methods of examination are given in orderly detail and most clearly. Different methods of inducing anesthesia are described with indications as to different classes of cases. Individual diseases are discussed in a rational order and in a way—excellent text aided by excellent illustrations—to enable the attentive reader to perform most of the details of examination and treatment from the description alone.

DOCTOR AND PATIENT: Papers on the Relationship of the Physician to Men and Institutions, by FRANCIS WELD PEABODY, M.D., Professor of Medicine, Harvard Medical School; Director of the Thorndike Memorial Laboratory; Visiting Physician and Chief of the Fourth Medical Service, Boston City Hospital, 1921 to 1927. *The MacMillan Company*, New York, 1930. \$1.50.

The doctor who wrote these papers at different times with no thought of their ever being compiled had, by the testimony of his contemporaries, of his students, and of the papers themselves, rare fitness for writing on the subjects covered in this little volume:

The Public and the General Practitioner.
The Care of the Patient.

The Physician and the Laboratory.

The Soul of the Clinic.

The very selection of the subjects shows breadth and depth; the manner of treatment is pleasing, instructive and edifying.

PNEUMOCOCCUS (TYPE III) MENINGITIS TREATED WITH POTASSIUM PERMANGANATE—RECOVERY

(Weinberg, Max H., Pittsburgh, in *The Jour. Nervous & Mental Diseases*, July 1931)

The dosage used was 4 oz. of the standard solution, advocated by Nott—2 grains of potassium permanganate to 1½ pints of water. The potassium permanganate should be dissolved first in cold water in earthenware or glass dish, and hot water added to make the solution comfortably warm. A cleansing enema should be given first and followed with the potassium permanganate solution. The patient should lie on his left side and remain so for at least 20 minutes to facilitate retention. The enema should be given slowly. The frequency of administration depends altogether on the toxicity and general condition of the patient. My patient was practically moribund when we commenced the treatment, and one enema every four hours sufficed.

In the original communication of Nott's, a case of a boy of 3½ years suffering from pneumococcus meningitis is reported. This patient also recovered, but it took about six weeks, and four more weeks to convalesce. Our patient went on to an uneventful recovery after the temperature once came down, 11 days after the treatment was begun.

I have been able to find but one other case of pneumococcus meningitis, type III, that recovered, the one reported by Ratnoff & Litvak. The fact that even this virulent type of organism responded to the treatment is, I believe, of significance, and further proof of the efficacy of the treatment.

It is my hope that this treatment will be given a thorough tryout, at least in cases of pneumococcal meningitis, and that the reason why it is so effective will eventually be explained by scientific laboratory workers.

GALEN'S TREATMENT OF PULMONARY TUBERCULOSIS

(Walsh, J., in *The American Rev. of Tuberculosis*, July 1931)

Occasionally special parts of animals were prescribed in an organotherapeutic way, for instance, tripe and chitlings for stomach trouble, goat's bladder for wetting the bed, kidney, liver and brain, for affections of these organs, nightingales' tongues for improving the melodiousness of the voice, and in impotency the testes of the cockerel or young pig but decidedly not those of the he-goat, ram or bull. In asthma was prescribed the dried lung of the wolf and in convalescing phthisis the dried and powdered lung of the stag, possibly on account of its longwindedness.

A case of acute gangrenous appendicitis (Kirshbaum, J. D., Chicago, in the *Illinois Med. Jour.*, July) four days after operation develops tetany with a second attack on the 8th day and made an uneventful recovery thereafter.

NEWS

Dr. J. K. Hall, Richmond, and Dr. L. B. McBrayer, Southern Pines, are regular contributors to this column

The bi-monthly meeting of the CATAWBA VALLEY MEDICAL SOCIETY was held in Lincoln July 14th, with Dr. E. W. Pfeifer, of Morganton, president. Dr. J. W. Keever, of Hickory, read a paper on "Arachnoidism" and Dr. J. B. Helms, of Morganton, discussed "The Principles and Methods of Diagnosis in Acute Abdominal Disease." A large part of the program was devoted to the discussion of cases, many physicians joining in. The Society is sponsoring a movement whereby the four counties in the Society, Lincoln, Catawba, Burke and Caldwell, take over the Catawba Tuberculosis Hospital, which has been closed now for several months, and operate it for tuberculosis cases in the four counties. About 30 physicians attended the meeting. Executive sessions were held in the courthouse. The next meeting is to be held in September at Morganton.

DR. O. L. MILLER and DR. WM. M. ROBERTS, Charlotte, N. C., have announced the association of DR. HARRY WINKLER and the opening of new offices, Rooms 101-112 Medical Arts Building, with improved facilities for x-ray diagnosis of bone and joint diseases and injuries and a complete therapeutic gymnasium.

GOVERNOR C. DOUGLASS BUCK (of Delaware), who was operated on the last week in July at the Delaware Hospital, left the institution August 5th and went to his home at Buena Vista, near Newcastle, Del. [As announced in our issue for May, Governor Buck is this journal's nominee for the Presidency. This evidence that he gets his doctoring at home is in keeping with his unique exhibition of sense and courage in giving his reasons for refusing to sign a bill passed to license chiropractors. Our solicitous good wishes for our candidate's speedy and complete restoration to health. —J. M. N.]

DR. A. A. RUCKER, Rutherfordton, has returned from Saluda, N. C., where he took a course of lectures on diseases of children at the Southern Pediatric Seminar.

DR. JOHN Q. MYERS, Charlotte, announces the opening of his new offices at 425-428 Professional Building.

DR. E. W. PRESSLEY, 68 (Univ. of Maryland, '87), died at his home at Clover, S. C., July 24th.

DR. F. BOBO SCRUGGS, 38, (Jefferson '19), Shelby, N. C., died at the Shelby Hospital of a paralytic stroke July 25th. Among survivors are Drs. W. M., W. N. and C. J. Scruggs, brothers, all of Charlotte.

UNIVERSITY OF VIRGINIA

Dr. Aubrey Webster Armentrout, Resident Surgeon at the University of Virginia Hospital for the past year, has opened offices for practice in Surgery and Gynecology at 110 North Braddock Street, Winchester, Virginia. Dr. Armentrout is a graduate of the Johns Hopkins Medical School. He spent three years as interne in the Jefferson Hospital in Roanoke. During the session of 1929-1930 he held a Phillip Francis DuPont Research Fellowship in Surgery. During the tenure of this Fellowship he completed an experimental investigation on Cerebral Embolism and Thrombosis, in partial fulfillment of the requirements for a Master of Science Degree in Surgery awarded by the University of Virginia in June, 1930.

DUKE

The following appointments, effective July 1st, were made to the faculty: Dr. Bayard Carter, Professor of Obstetrics and Gynecology, and Dr. Edwin C. Hamblen, Associate Professor of Obstetrics and Gynecology.

In addition to the above, there were added to the staff 1 resident, 2 assistant residents, 9 internes and 1 Fellow.

July 20th marked the close of the hospital's first year of operation. During that time 3,417 patients were admitted to the hospital, 1,439 operations were performed and approximately 2,972 patients were treated in the Out-Patient Clinic.

On July 20th and 21st, Dr. Wilburt C. Davison, Dr. Alfred R. Shands, jr., and Dr. Bayard Carter attended the Southern Pediatric Seminar, at Saluda, N. C., at which they gave lectures.

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., Supt.)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

HARRY L. BROCKMANN, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

EVERETT F. LONG, M.D.

O. B. BONNER, M.D., F.A.C.S.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

OREN MOORE, M.D., F.A.C.S.

Obstetrics and Gynecology

MISS FANNIE AUSTIN, Nurse

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*

CHARLES S. MOORE, M.D. *Surgeon*

O. J. MacLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE

Pathologist

INTERNAL MEDICINE

JAMES M. NORTINGTON, M.D.

*Diagnosis and Treatment
in*

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park Arkansas

JAMIE W. DICKIE, B.S., M.D.

*INTERNAL MEDICINE
DISEASES OF THE CHEST*

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

HARRY WINKLER, M.D.

Practice Limited to

ORTHOPEDIC SURGERY and FRACTURES

Fifteen West Seventh Street
105 W. Franklin Ave.

Charlotte
Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761
Burlington North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J
3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

Telephones—

Office—4663

Hours—9 to 5 and by Appointment
219-23 Professional Bldg. Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.

Consultation 219 Professional Bldg.
Phone 4063

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

*NERVOUS AND MENTAL DISEASE
ADDICTIONS*

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.

RAYMOND THOMPSON, M.D.

CLAUDE B. SQUIRES, M.D.

THEODORE M. DAVIS, M.D.

Prostatic Resection and Operative Cystoscopy:

THEODORE M. DAVIS, M.D.

CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology:

ROBERT H. LAFFERTY, M.D.

CLYDE C. PHILLIPS, M.D.

Proctology:

L. D. McPHAIL, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKAY and McKay***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.

Charlotte

Residence Phone 1858

Office Phone 1857

221 East Main Street

DR. W. B. LYLES

Spartanburg, S. C.

Practice limited to

UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., Director***PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM*

Colonial Apartments

Greer, S. C.

WYETT F. SIMPSON, M.D.*GENITO-URINARY DISEASES*

Phone 1234

Hot Springs National Park, Arkansas

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

R. B. McKNIGHT, M.D.*SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30—5

Professional Building

Charlotte

WM. MARVIN SCRUGGS, M.D., F.A.C.S.*SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

WILLIAM FRANCIS MARTIN, M.D.*GENERAL SURGERY**GYNECOLOGY*

Professional Building

Charlotte

HAROLD GLASCOCK, M.D.*GENERAL SURGERY AND
DIAGNOSIS*Office At
Mary Elizabeth Hospital

Raleigh, N. C.

Antepartum Hemorrhage

LESTER A. WILSON, M.D., F.A.C.S., Charleston, S. C.

Professor of Obstetrics, Medical College of the State of South Carolina

Antepartum hemorrhage was recognized as a pathological entity by Hippocrates and his immediate followers. They attributed it to a premature separation of the normally implanted placenta, which had for some unknown reason prolapsed toward the os. This belief was held until 1664 when Portal and later Rigby, 1775, established the differentiation between hemorrhage due to placenta praevia and that due to premature separation.

For the purpose of reviewing the subject of antepartum bleeding, I am presenting herewith a detailed report of the cases of this condition which have occurred at the Roper Hospital and in my private practice during the period 1924-1929, inclusive. This report does

not include cases of hemorrhage due to abortion or miscarriage.

In this series there were 83 pregnancies complicated by antepartum hemorrhage occurring in 3,348 deliveries, about $2\frac{1}{4}$ per cent. The pathological conditions which caused the bleeding were found to be as follows: placenta praevia, 29 cases—.86 per cent.; premature separation of the placenta, 23 cases—.68 per cent.; ectopic gestation, 23 cases—.68 per cent.; hydatidiform mole, 4 cases, rupture of uterus, 4 cases.

The 29 cases of placenta praevia are reported in the following charts. First, the central cases, and the second chart shows the lateral and marginal cases.

Table 1
PLACENTA PRAEVIA CENTRALIS

Case No.	Race and Para	How Delivered	Length of Gestation	Maternal Mortality	Infant Mortality	Cause of Death (Maternal)
1.	Colored Primipara	Cesarean	Full Term	Died	Alive	Infection
2.	Colored Primipara	Cesarean	34 Weeks	Recovered	Alive	
3.	Colored Multipara	Cesarean	Full Term	Recovered	Alive	
4.	Colored Multipara	Cesarean	32 Weeks	Recovered	Died	
5.*	Colored Multipara	Breech Extraction	34 Weeks	Recovered	Died	
6.	Colored Multipara	Cesarean	Full Term	Recovered	Alive	
7.	White Multipara	Bag & Version	30 Weeks	Recovered	Died	
8.	White Multipara	Bag & Version	38 Weeks	Recovered	Alive	
9.	White Primipara	Forceps	33 Weeks	Recovered	Died	
10.	Colored Primipara	Cesarean	Full Term	Recovered	Alive	

*This patient delivered placenta two hours before admission to hospital, where she was delivered by breech extraction.

Table 2
PLACENTA PRAEVIA
Marginalis and Lateralis

<i>Case No.</i>	<i>Race and Para</i>	<i>How Delivered</i>	<i>Length of Gestation</i>	<i>Maternal Outcome</i>	<i>Infant Morality</i>	<i>Cause of Death (Maternal)</i>
1.	Colored Multipara	Bag-&-Version	35 Weeks	Recovered	Died	
2.	Colored Multipara	Bag-&-Version	35 Weeks	Recovered	Alive	
3.	Colored Multipara	Breech-Extraction	33 Weeks	Recovered	Died	
4.	Colored Multipara	Bag-&-Version	Full Term	Recovered	Died	
5.	Colored Multipara	Cesarean	32 Weeks	Recovered	Alive	
6.	Colored Multipara	Bag-&-Version	30 Weeks	Recovered	Died	
7.	Colored Multipara	Bag-&-Version	Full Term	Recovered	Alive	
8.	Colored Multipara	Bag-&-Version	36 Weeks	Recovered	Alive	
9.	White Multipara	Bag-&-Version	Full Term	Recovered	Alive	
10.	White Multipara	Braxton Hicks Version	30 Weeks	Recovered	Died	
11.	Colored Multipara	Bag-&-Version	Full Term	Recovered	Alive	
12.	Colored Multipara	Bag-&-Version	27 Weeks	Recovered	Died	
13.	Colored Multipara	Braxton Hicks Version	Full Term	Recovered	Died	
14.	White Multipara	Breech Extraction	32 Weeks	Recovered	Alive	
15.	White Multipara	Bag-&-Version	Full Term	Recovered	Alive	
16.	Colored Multipara	Spontaneous	Full Term	Recovered	Died	
17.	Colored Multipara	Bag-&-Version	Full Term	Recovered	Alive	
18.	White Multipara	Bag-&-Version	Full Term	Recovered	Alive	
19.	Colored Multipara	Bag-&-Version	36 Weeks	Recovered	Alive	

Little more is known now as to the direct cause of placenta praevia, than in the earlier days when Portal, Rigby and others were making attempts to assign it a cause. Endometritis is probably a causative factor,—no doubt the devitalized ciliated epithelium of the endometritic uterus plays a part. Placenta praevia occurs more frequently in the multipara than in the primipara, the size of the multiparous uterus may be a factor as

it seems quite reasonable to assume that the chances for a low implantation of the ovum would be much greater in an enlarged uterus than the smaller lumen of the primipara. Posture may also be a causative factor in this condition in that placenta praevia is not seen in the four-footed animals. Malposition of the uterus is another possible cause; however, conclusive information on the subject would be difficult to obtain.

In the series reported in this paper there were 26 multiparae and three primiparae. A definite history of previous endometritis could not be elicited in many instances on account of the low intelligence of the patients; however, it is quite possible that many of them at some time had a low-grade infection. The first hemorrhage was noticed from the 27th to the 40th week, the greatest number of them began on the 38th week. There were 10 central and 19 marginal implantations; vaginal examination and postpartum inspection of the placenta were the final guides to correct diagnosis. It is generally understood that the usual type in the primipara is the marginal; the three primiparae in this series had a central implantation. There were a few cases in this series in which the classical symptom, causeless, painless bleeding,—was not seen. In four of the cases reported the discharge on admission was described as a dark red, serosanguinous fluid with few small well-formed clots. Vaginal examination showed that there had been an accumulation of blood in the vagina, and this had become an organized clot during a short period of recession of the hemorrhage. Pain was absent except for three patients who were in labor when seen by us.

I have made a special effort to determine the point at which the uterine souffle was heard in cases with ante-partum hemorrhage, and it was interesting to find that the souffle was heard near the symphysis in about 50 per cent. of the cases of placenta praevia. This finding was constant enough to warrant some diagnostic significance.

In view of the frequent exceptions to the classical symptoms presented by patients with reference particularly to pain and hemorrhage, I feel that a positive diagnosis can be made only by palpating the placenta in the cervix. Of course, preparation should be made to control a hemorrhage that may be caused by such an examination.

There were 10 cases of placenta praevia centralis, six of which were delivered by cesarean section with one maternal and one infant death. Two were delivered by bag-and-version with no maternal mortality and one infant death. One was delivered by forceps of a stillborn fetus; the mother recovered. One patient (Case 5), had delivered the pla-

centa before admission and was delivered of a breech presentation immediately. This case recalls to mind an article written about 50 years ago by Dr. Isaac E. Taylor of New York and Published in *The Transactions of the American Gynecological Society*, in which is described partial or even complete separation of the placenta as a plan of treatment. I mention this simply as an interesting coincidence.

There were 19 partial and marginal cases with no maternal mortality. On 13 of these the Voorhees bag was used to control the hemorrhage and delivery was by podalic version after dilatation was complete. There were four infant deaths in the 13 cases treated by bag-and-version. In one of the marginal cases presenting by the breech, the hemorrhage was controlled by rupture of the membranes, and she was delivered by breech extraction of a stillborn infant. One was delivered by cesarean section at the 32nd week, both mother and infant lived. In the two cases in which Braxton Hicks version was performed both infants died. The remaining case delivered spontaneously of a stillborn infant soon after admission to the hospital.

The mortality in this series was, maternal 3.4 per cent.—1 mother died; fetal 40.8 per cent.—12 infants died. The highest maternal mortality was in the cases treated by cesarean, however, due to the gravity of the cases thus treated, those with severe hemorrhage, and no dilatation of the cervix, the different methods of delivery can not be justly compared. The infant mortality was lowest in the cases treated by cesarean section; next lowest were the cases treated by means of bag-and-version, and highest in those treated by Braxton Hicks version. It was interesting to find a high incidence of lacerations of the cervix among the patients treated with the hydrostatic bag. Otherwise there was no special morbidity except, of course, anemia from loss of blood and an occasional low-grade infection. Follow-up has been impossible in some of these cases. Of the seven who have since become pregnant, none has had a repetition of the condition.

The following charts make a detailed report of the cases with premature separation of the placenta:

Table 3

PREMATURE SEPARATION

No. Case	Race and Para	Length of Gestation	Cause	Treatment	Maternal Outcome	Infant Mortality	Extent of Separation	Cause of Death (Maternal)
1.	Colored Multipara	31 Weeks	Tox. & Neph.	Bag & Version	Recovered	Still-born	Partial	
2.	White Multipara	36 Weeks	Und't.	Spontaneous	Recovered	Alive	Partial	
3.	Colored Multipara	27 Weeks	Und't.	Spontaneous	Recovered	Still-born	Partial	
4.	Colored Multipara	32 Weeks	Trauma (fall)	Man. Dila. High Forc.	Died	Still-born	Complete	Hemorrhage (Shock)
5.	Colored Primipara	Full Term	Tox. & Neph.	Cesarean	Died	Alive	Partial	Septicemia
6.	Colored Multipara	38 Weeks	Und't.	Porro Cesarean	Died	Still-born	Complete	Shock Hemorrhage
7.	Colored Multipara	28 Weeks	Tox. & Neph.	Forceps	Recovered	Still-born	Partial	
8.	Colored Multipara	Full Term	Tox. & Neph.	Cesarean	Recovered	Alive	Partial	
9.	White Multipara	36 Weeks	Tox. & Neph.	Spontaneous	Recovered	Alive	Partial	
10.	Colored Multipara	36 Weeks	Tox. & Neph.	Spontaneous	Recovered	Alive	Partial	
11.	Colored Multipara	32 Weeks	Und't.	Porro Cesarean	Recovered	Still-born	Complete	
12.	Colored Primipara	36 Weeks	Und't.	Cesarean	Recovered	Still-born	Complete	
13.	Colored Multipara	32 Weeks	Tox. & Neph.	Porro Cesarean	Died	Still-born	Complete	Shock
14.	Colored Multipara	36 Weeks	Und't.	Spontaneous	Recovered	Alive	Partial	
15.	White Multipara	33 Weeks	Tox. & Neph.	Forceps	Recovered	Still-born	Partial	
16.	Colored Multipara	32 Weeks	Und't.	Cesarean	Recovered	Still-born	Partial	
17.	Colored Multipara	35 Weeks	Tox. & Neph.	Spontaneous	Recovered	Still-born	Partial	
18.	Colored Multipara	Full Term	Tox. & Neph.	Cesarean	Died	Still-born	Complete	Hemorrhage (Shock)
19.	White Multipara	32 Weeks	Tox. & Neph.	Cesarean	Recovered	Still-born	Complete	
20.	Colored Multipara	30 Weeks	Tox. & Neph.	Breech Extraction	Recovered	Still-born	Complete	
21.	White Multipara	32 Weeks	Death of fetus	Spontaneous	Recovered	Still-born	Partial	
22.	White Multipara	32 Weeks	Tox. & Neph.	Man. Dila. Forceps	Recovered	Still-born	Complete	
23.	White Multipara	Full Term	Und't.	Spontaneous	Recovered	Alive	Partial	

*Hemorrhage stopped and toxemia improved, delivered spontaneously one month later.

The association of albuminuria in a large percentage of cases with premature separation was described by Muus of Copenhagen in 1903. He advanced the idea that the separation was caused by hemorrhagic lesions in the decidua which were associated with the presence of nephritis, usually chronic, and he thought that accidental hemorrhage was a manifestation of a pregnancy toxemia. To Couvelaire, however, undoubtedly belongs the distinction of having made the first really important contribution to this subject since that of Rigby, a contribution which has not only served to focus attention on accidental hemorrhage and to blaze an approach to its study from an entirely new angle, but promises, possibly, to aid materially in the investigation of the whole broad subject of toxemia of pregnancy. In 1913 Essen-Moeller contributed an important paper in which he reported five cases of this type. In concluding this paper, he said: "There are two genetically different forms of accidental hemorrhage. The one is caused by trauma; the other is due to an intoxication of the same kind which causes albuminuria, eclampsia, or eclampsia. The extensive bleedings in the uterus (*apoplexie uteroplacentaire*) observed by Couvelaire and other authors are probably characteristic of the eclamptic form of accidental hemorrhage."

Of the 23 cases of premature separation reported herein, 13 had positive evidence of toxemia, *i.e.*, marked urinary changes, hypertension, or changes of the eye grounds, etc. There were eight cases of undetermined etiology. No doubt some of these cases had a toxic basis, however, we could find no definite clinical evidence on which a positive diagnosis of toxemia could be made. The constant finding of necrotic and calcified areas in the placenta points to the theory of a metabolic dysfunction, most probably induced by a toxemia. One case was of traumatic origin, and another occurred coincidentally with death of fetus *in utero*; the separation taking place several days after the death of the fetus. There was no appreciable evidence of toxemia in either of these cases. There were 21 multiparae and only two primiparae. The frequency in multiparae may be explained on the basis of kidney insufficiency due to age or to the effects of previous pregnancies. The average age in this series is not definitely

known on account of the unreliable information which these patients gave; most of them appeared to be in the latter part of the child-bearing period. The time of onset varied from the 27th week to full term, the greatest number occurring about the 35th week. Six of the multiparae had a previous toxemia of pregnancy, but none of them gave a history of having had a previous separation. It is an interesting fact that not one of these cases of premature separation occurred among patients who were following a rigid regimen of prenatal care.

In three of the cases in which delivery was by cesarean marked uterine apoplexy was found. A brief description of the pathology follows: The uterus was ecchymotic, soft and flabby, the lower half of the side walls were infiltrated with blood. This hemorrhage radiated medially from the attachments of the broad ligaments, and was most marked at their attachments, fading to a mere pink coloration at the midline and over the fundus. This was more marked on the posterior wall than the anterior. The uterine muscle bundles were degenerated and infiltrated with blood. The placenta showed extensive necrotic and calcified areas, and organized blood clots were adherent to the separated surface.

In several of the cases delivered by section, the amniotic fluid was found to contain considerable blood, giving it a coffee-grounds appearance. The writer is unable to explain this finding except upon the possibility of osmosis and diapedesis into the sac, as no evidence of rupture of the membranes could be found. Other cases showed this condition when the membrane was ruptured vaginally, but the possibility of contamination made the finding uncertain. There were nine cases of complete separation and 13 of partial separation in this series.

The discharge was usually dark, serosanguinous; in cases with extensive separation it was bright red. There were no cases of concealed hemorrhage when these patients first came under our observation. Pain was a fairly constant symptom and usually referable to the site of implantation. In two cases the pain had stopped on admission; both proved to have only a small area of separation which had taken place several hours before admis-

sion to the ward. The most constant and valuable diagnostic sign observed was the tonic contraction of the uterus, apparently caused by the accumulation of blood within it. This sign, along with the inability to palpate placental tissue near the cervix, and a history of toxemia are the most important criteria for differentiating this condition from placenta praevia.

In six of the nine cases of complete separation delivery was by cesarean section; the uterus was removed in three of these on account of uterine apoplexy. Three of the patients delivered by section died, two from hemorrhage and shock and one from infection. Two patients were delivered by forceps, one mother dying. This patient was admitted with practically full dilatation and was delivered immediately because of free hemorrhage. I believe this was a case of uterine apoplexy, as the hemorrhage could not be controlled after delivery; but, as we could not get an autopsy, it is not included in the uterine apoplexy group. In the other case delivery was by breech extraction, the mother living. All of the infants in this series were lost.

Of the 14 cases of partial separation, eight patients were delivered spontaneously. These patients were kept under strict observation, the absence of active bleeding and the general condition of the patients remaining good permitted this conservative plan of treatment. There were no maternal and three infant deaths in the cases that were allowed to deliver spontaneously. Three were delivered by abdominal section resulting in one maternal and one infant death. Two were delivered by forceps; both mothers recovered and both infants died. One was delivered by bag-and-version; the mother lived, the infant died.

The gross mortality for premature separation of the normally-implanted-placenta group was: maternal 17.4 per cent., infant, 69.6 per cent.—five mothers and 16 infants died.

In this series the cases that were treated conservatively and allowed to deliver spontaneously had the lowest mortality. There were no maternal deaths in this group. Forty per cent. of the mothers treated by immediate abdominal section were lost. Considering also the danger of rupture of the uterus in future pregnancy in such patients, it becomes clear that immediate and operative interference for premature separation of the placenta is not the best plan of treatment. However, it must be borne in mind that the cases treated by immediate operative measures were the severest—those with active hemorrhage and uterine apoplexy, in which it was impossible to control the bleeding until the uterus could be emptied and in which postpartum hemorrhage was so apt to occur. In such a situation a patient is better off if delivered immediately by abdominal section and the uterus removed if necessary to stop the bleeding.

Of the remaining causes of bleeding during pregnancy, ectopic gestation was most common. There were 23 cases of this condition, .68 per cent., all of which were treated by laparotomy; two mothers died, a mortality of 8.6 per cent. There were four cases of hydatidiform mole, one in every 800 pregnancies; no deaths occurred. Malignancy has not developed in any of these patients. I am not reporting ectopic gestation and hydatidiform mole in this paper with a view of discussing the subject, but simply to note the frequency of their occurrence.

A very interesting group of cases occurring in this series was those with a rupture of the uterus,—a report of which follows:

Table 4
RUPTURED UTERUS

Case No.	Para	Cause	Treatment	Maternal Mortality	Cause of Death	Fetal Mortality
1.	Para 4	Und't.	Hysterectomy	Recovered	Died
2.	Para 6	Prolonged Labor	Hysterectomy	Died	Hemorrhage Shock	Macerated
3.	Para 2	Previous Cesarean	Hysterectomy	Recovered	Died
4.	Para 10	Prolonged Labor	Palliative	Died	Hemorrhage Shock	Died

The cause of the rupture in the first case reported could not be definitely determined, there was no evidence of labor or injury. It is quite possible that this patient did not give history correctly; no other pathological condition was found in the uterus; Wassermann reaction was negative. The second case was apparently caused by prolonged labor with a macerated fetus, although the uterus was found to be fibrosed around the site of the rupture, and the Wassermann was positive; either of these may have been a causative factor.

In case No. 3, the uterus ruptured in the scar of a classical cesarean that had been performed 16 months previously; the muscular tissue of the uterine wall had not united; the gap apparently had been closed over with peritoneum. The rupture took place spontaneously on a slight exertion. The uterus was otherwise normal. In case No. 4, the rupture was probably caused by injury during delivery of a breech presentation when an intern attempted to complete the extraction before the visiting obstetrician could reach the delivery room. At autopsy the rupture was found to be oblique and situated in the posterior wall of the lower uterine segment. There was no other pathology except a generalized arteriosclerosis. The principal symptoms noted in these cases were shock, pain over the site of rupture and a moderate amount of vaginal bleeding. In case No. 1, there had been considerable vomiting, and, in view of the negative obstetrical history, it was thought that the patient had an intestinal obstruction. Case No. 2 was that of a patient admitted to the ward after having been in labor 36 hours. She had slight vaginal bleeding and was in moderate shock. The labor pains had completely stopped. As the macerated fetal head was visible in the vulva, the delivery was completed by forceps; examination of the uterus postpartum revealed the rupture. In case No. 3 rupture in old scar was caused by a slight exertion, pain, shock and a moderate hemorrhage followed immediately. The fetus could be palpated in the abdominal cavity. The patient described in case No. 4 went into a state of shock immediately after delivery; no pain was noted and the hemorrhage being so moderate as not to require packing, the rupture was diagnosed

at autopsy. Pituitrin was not used in these cases.

SUMMARY

In this series complete rupture of the uterus occurred once in 837 deliveries; the mortality was 50 per cent. for the mothers and 100 per cent. for the infants. Hysterectomy was performed in three of the cases on account of the ragged and extensive lacerations in the uterus, also on account of the possibility of infection.

These cases of rupture of the uterus illustrate the importance of adequate supervision during pregnancy and labor, as well as the dangers of the classical cesarean.

—95 Rutledge Avenue.

OBSTETRIC SEPSIS: ITS TREATMENT BY PREVENTION
(Solomons, Bethel, Dublin, in *The Lancet* (London),
June 27th, 1931)

Vaginal examinations should be made seldom, but if there is doubt in the mind of the attendant about the presentation, a vaginal examination should certainly be made, and if this does not give the desired information, the half or whole hand should be passed under an anesthetic. This is rarely necessary; in fact, vaginal examination should scarcely ever be made.

Teaching of post-graduates in hospital should prepare them for general practice, not for work in palatial surroundings.

Prenatal care, though important, must not mask the fact that complications of labor will occur in spite of it. There is a cure for all cases of sepsis. It is a mistake to concentrate on one method of treatment. Sepsis can be prevented by care in pregnancy. The obstetrician must know how to put on gloves. It is necessary to wear gloves at all midwifery cases. The wearing of masks and gowns is not essential.

Details are given of the examination of 50 throats, which negatives the theory that throats are responsible for sepsis.

Aseptic dressings around the vulva are more inclined to be a danger than a preventive.

While forceps may be used such procedures as the delivery of a head in the superior strait by the Kielland or any other forceps is condemned.

Small isolation wards for suspect cases in pregnancy, labor and the puerperium are necessary.

While I (McCALLUM, in *Jl. Dental Research*, Aug.) feel that no final conclusions can be drawn at present concerning the etiology of dental disease in its relation to diet, I can not see how the extreme views of those who place all the emphasis on the antiscorbutic vitamin can be justified.

Chemical Hysterectomy*

WM. S. HESTER, M.D., Reidsville, N. C.

Since the beginning of medical history those organs of woman necessary for reproduction have been the center for various disease conditions. Organs so varied in their physiology must present more pathology than others. To the treatment of these conditions, the surgical profession devotes much of its time, 25 per cent. of the average surgeon's work dealing with pathology of the uterus, tubes and ovaries. We are always seeking some new way of handling these conditions more easily and adequately. For the majority of these conditions, the scalpel, x-ray and radium are considered the means of choice. The subject for discussion deals with an old method, which has only recently been revived by the profession.

Chemical hysterectomy was a term which had little meaning to me until I saw the procedure last April at Rochester, Minn. There Dr. Charles Mayo has done over 40 cases, and Dr. J. C. Masson, who started the work there and who has a larger series, is continuing to do them in certain selected cases. The method most widely accepted consists of packing the curetted uterine cavity with a thin gauze strip impregnated with a saturated solution of zinc chloride. The details of the procedure will be given later.

What are the indications for this type of therapy?

1. It is indicated in many women who have various troubles in the uterus, in whom some part of the organ, usually the cervical glands, acts as a focus of infection, and in whom the condition is complicated by disease of the kidneys or heart. Focal infection is a subject which has been greatly exploited, the teeth and tonsils being the target to a greater degree. In the past three years much has been done in regard to infected cervixes and prostates, with the result that elimination of these foci by various methods has become deservedly more popular. Frequently we see obese females nearing the menopause, who complain of rheumatism affecting the small joints or inflammations of the eye, hemorrhages in the

retina, corneal ulcers, etc., in whom we know that some focal infection is responsible for the trouble. All infected teeth and tonsils can be exonerated and we find that the patient has a leucorrheal discharge and some inflammation of the cervix. In others the cervix may appear fairly normal and the patient has a foul uterine discharge. This condition may present itself at any age from 20 up, but the greater number of such patients are between 40 and 60. Again polypoid endometritis or a small growth within the uterus is present which at times causes slight hemorrhage. In these fleshy women it would be difficult to remove the uterus through the vagina; even to operate through an abdominal incision and several inches of fat would be a difficult and dangerous operation, and one which the patient would often refuse. Complications following hysterectomy in this type of patient are unusual but do occur. We want to remove such a uterus with the least risk to the patient, and here is where chemical hysterectomy is to find its field of usefulness; because it is a safe procedure, has never been attended with mortality and by little morbidity.

2. In chronic gonorrhea and other infections of the uterus that resist milder methods of treatment this caustic quickly eliminates the infected tissue. A patient may have had both tubes and ovaries removed and continue to have a profuse uterine discharge. Such conditions can be readily relieved by chemical hysterectomy. A patient may have had a supravaginal amputation of the uterus and a troublesome infected cervix has been left. This can be readily removed by the chemical method, whereas the surgical removal would be much more difficult.

3. In cases where amenorrhea is desired, the chemical method offers advantages over radiation. By so doing we avoid the disadvantages of destroying ovarian function, which should be considered a matter of no little moment. In selected cases of metrorrhagia, not due to malignant disease, when it is also desired to destroy the uterine function,

*Presented to the Eighth District (N. C.) Medical Society, meeting at Winston-Salem, April 14th, 1931.

the chemical procedure has advantages. If it is desired to conserve the uterine function, the use of x-ray or radium is preferable. In the metrorrhagia accompanying pulmonary tuberculosis or other debilitating conditions, the caustic method is far easier and attended with less complications than any other available method.

4. To produce permanent and absolute sterility in mental and moral defectives, the chemical method is the best known to eliminate the chance of impregnation or of uterine infection. This can be done without altering the ovarian function or without the patient undergoing the major abdominal procedure of tubal ligation or removal of the ovaries. In our mental institutions this should become a method of choice when it is desired to curb propagation of more mental defectives in temporarily institutionalized patients. Even though the patient is uncoöperative, as most of them are, this method can be used with safety where other methods are attended with more danger due to the mentality of the patient. To have seen these patients bite out their stitches in various wounds and remove splints from broken extremities as fast as they are applied, would convince of this.

6. In small inter- and intrauterine tumors this is an excellent method. Polyps can be easily removed from the cervix with a snare, but so often they quickly return. Submucous fibroids, or even small interstitial fibroids, should never be attacked by this method, because the degree of penetration of the caustic is necessarily limited. Needless to say serous fibroids could never be so removed.

The technique to be employed is simple, amounting to little more than a dilation and curettage followed by careful packing of the uterine cavity. The patient is prepared as for a D. and C. Nitrous oxide, local anesthesia, or sodium amytal narcosis, can be employed, and in a patient who is not extremely sensitive, it can be performed without an anesthetic. The cervix is dilated quite widely, and the uterus curetted, the particles being saved for examination. The vaginal walls everywhere are then protected with sponges impregnated with sodium bicarbonate, or sponges wet with a saturated solution of sodium bicarbonate. Care is taken that the *cul de sac* is filled with these. It is a good

plan to have a sponge under the weighed speculum. A strip of plain gauze three-quarters of an inch wide and 18 to 24 inches long is dipped into a saturated solution of zinc chloride, and is squeezed fairly dry. The length of the gauze used depends upon the previously determined size of the uterine cavity. To the end of this strip of gauze a piece of umbilical tape, or fish line, is tied to facilitate its removal. Then a uterine packer with an oburator is inserted into the cervix and the cavity is well filled, because it is essential that the caustic come in contact with all parts of the uterine wall. It is also essential that the cervix be well filled, the fish line being left hanging from the cervix. If any of the zinc chloride comes in contact with the vaginal walls, it will quickly cause them to become whitened, and this is why gauze should be kept around the cervix until the packing is completed. The cervix is then tightly closed by clamping two long sharp towel clips on it. The vagina is thoroughly cleansed with sodium bicarbonate sponges and it is then packed with sodium bicarbonate sponges, these also being wrapped around the towel clips. Every two hours after the patient has been returned to her room until the packing is removed the vagina is flushed with a saturated solution of sodium bicarbonate. In the average case the packing is allowed to remain in the uterus 36 hours, but some men advise leaving it for 60 hours. In the few cases in which I have used it, 36 hours has been sufficient. The removal of the packing is very simple and can be done in the patient's room, the vaginal packing and the towel clips being removed and the uterine packing withdrawn by pulling on the fish line. Following this a sodium bicarbonate douche is given. No further treatment is necessary after this except daily alkaline douches. These patients are hospitalized for five to six days and then allowed to return to their homes where they are instructed to take daily alkaline douches. They are allowed to walk about the house and come to the office for examination. In 10 to 14 days following the packing, the uterus is seen protruding from the little rim of the outer mucous membrane of the cervix or is lying free in the vagina. More frequently the patient brings the uterus to your office wrapped in a towel. One patient whom

I treated by this method, passed the uterus while at stool and it was not recovered. Dr. Masson of the Mayo Clinic told about one of his patients having the uterus drop out while on the way to his office. I have brought a specimen with me for your examination. It is a hard whitish body having the same shape as the uterus, and consists of the endometrium, and practically the entire myometrium. That portion of the uterus which remains, contracts into a small scarred body a little larger than a golf ball. The patient is not bothered with any discharge because nothing remains from which a discharge can come.

As a rule the uterus is passed without any aid, the patient experiencing pains similar to those of a mild labor. Occasionally it may be necessary to draw out the uterus after two weeks. This is done by grasping the whitened cervix with a tenaculum, rotating it to see that it is free and then applying gentle traction. Occasionally there may be a little flow after a week; if this becomes profuse it can be stopped by packing the vagina. If menstruation continues after the treatment, the uterus has not been thoroughly packed, and a portion of the endometrium remains. Such will not occur if the packing has been done correctly.

COMMENT

Chemical hysterectomy is presented here as another measure to treat the conditions as outlined. It is not to be considered a competitor of radium, x-ray, or the scalpel. It is obviously more dangerous than radium, but less dangerous than the scalpel. With the profession beginning to appreciate the fact that the cervix is a focus of infection, this method may be considered as an easy and nearly painless procedure to eliminate this focus. This method is being revived and it will not be long before it becomes more popular with the profession. As Dr. W. deB. McNider often quoted the advice of Alexander Pope:

"Be not the first by whom the new is tried,
Nor yet the last to lay the old aside."

References

1. MAYO, CHARLES H.: "Chemical Hysterectomy." Collected papers, Mayo Clinic, No. 100488, 21:427, 1929.
2. DRESSEN: "Chemical Hysterectomy." *Nedul. tidsch. v. verlosch. en gynec.*, Haarlem, 31:179-184, 1926.
3. BABCOCK, W. WAYNE: "Chemical Hysterectomy." *Amer. Jour. Obs. and Gyn.*, 7:693-696, June, 1924.

CARNETT'S WAY WITH SUSPECTED CHRONIC APPENDICITIS

(Julius Friedenwald and T. H. Morrison in *Annals of Internal Medicine*, July, 1931)

Carnett demonstrates the parietal location of the pain by determining tenderness "(1) by pinching abdominal skin and fat; (2) on finger-end poking of the abdominal wall, while the patient holds his abdominal muscles tense either by forcible contraction of the diaphragm or by raising and holding his heels above the bed with knees extended; (3) on making pressure over intercostal nerve trunks, and (4) on pinching or exciting finger-end pressure over Poupart's ligament and over the upper posterior buttock region on the right side." In order to obtain the best results, Carnett advises that these tests be carried out with considerable force. Since we have been utilizing the method of examination it is surprising to note how many suspected cases of so-called chronic appendicitis are found actually to be due to extra-visceral disease.

Chronic appendicitis when considered purely from a clinical standpoint is not as is usually held. That it does, however, occur is evidenced by the complete and permanent relief at times afforded by means of appendectomy.

The roentgen-ray signs are usually misleading and difficult of interpretation, and can therefore be regarded as of minor significance only. Individualization is of paramount importance. The diagnosis should never be made except following prolonged intensive study of the patient and should always be regarded with suspicion unless a history of preceding acute or recurring attacks can be elicited.

BURNING TONGUE

(J. C. Michael, in *Texas JI. of Med.*, Aug.)

Burning tongue is a symptom due to various causes: psychoneurotic, local, gastric secretory and blood dyscrasias. In each case search should be made for a possible systemic origin. There is justification for labeling the symptom as psychoneurotic, only when this examination has been thorough and futile. Burning tongue associated with anacidity should be looked on as possible premonitory signs of pernicious anemia. It seems rational to preventively treat such patients with liver or liver extract. Burning tongue may precede or alternate with attacks of true glossitis.

Giardia intestinalis is a parasite of clinical importance (P. F. WHITAKER, in *Va. Med. Monthly*.) It has a definite pathogenicity. Treatment with nearsphenamine, duodenal-biliary drainage, and instillation into the duodenum of saturated solution of magnesium sulphate has given satisfactory results.

The Problem of Glomerulonephritis*

CHRISTOPHER JOHNSTON, M.D., Durham, N. C.

Assistant Professor of Medicine, Duke University Medical School

It is perhaps noteworthy that most of the contributions to our knowledge of glomerulonephritis have dealt with the pathological physiology of the disease, its course, termination, and the resultant pathological picture. From these sources we have gathered information that is of great value in handling the patient with disturbed renal function, but it is also true that in many patients the disease process advances steadily to its unfavorable outcome, largely uninfluenced by our efforts to stay its course. In this paper I shall consider the various stages of the disease, together with the problem presented by each stage, and the mode of attack which seems at present most likely to lead to an ultimate solution of the problem.

The onset of glomerulonephritis in the acute stage usually follows some streptococcal infection, notably scarlet fever, pharyngitis, or sinusitis; but the factors which influence the development of the renal disease, or its progression to a favorable or an unfavorable termination are largely unknown. In spite of the presence of a soluble toxin in the blood and urine of patients with scarlet fever, it is probably significant that the nephritis does not appear early in the disease, when the manifestations of toxemia are most pronounced, but later, when the patient is developing immunity and the symptoms due to the soluble toxin are diminishing. The suggestion has been made that the development of nephritis is a manifestation of a hypersensitive state. Longcope has found that patients with nephritis are more apt to give a markedly positive skin reaction to filtrate from cultures of streptococci than are either normal people or patients after recovery from streptococcal infection of the throat.

If the development of acute nephritis depends upon the hypersensitive state, what determines the subsequent progression of the disease to either complete recovery or to a chronic state? One thinks of eradication of

the focus of infection, on the one hand, and of desensitization on the other. If the sensitivity persists, subsequent streptococcal infection might be expected to be accompanied by attacks of nephritis, and such, indeed, is found to be the case in many patients. Just how long this sensitivity may persist is not known, but a single case report will suffice to show that it may persist as a source of potential danger to the patient for many months after apparent complete recovery from nephritis.

This patient was a boy of 13, who had had acute nephritis in February, 1929. Although he had apparently recovered completely in a few months, his physician was astonished to find hematuria and considerable albuminuria in November of that year. Upon admission to the hospital two days later the urine was normal, and repeated tests during one month's stay in the hospital showed no evidence of nephritis. In February, 1930, he returned for examination. He had at this time a coryza so slight that he had paid no attention to it. Examination of the urine showed many casts and red cells, and a large amount of albumin. After three days' rest in bed the urine was again normal. One wonders how many such patients will retain their sensitivity, to show signs of renal insufficiency because of repeated slight injuries to the kidneys that have passed unnoticed because they cause no symptoms.

During the acute stage of the disease renal function is usually quite low, but the degree of impairment does not seem to have any prognostic significance. The studies recently reported by Van Slyke tend to show that during the acute stage there are no prognostic criteria, except that in the 23 patients observed renal function, as measured by the urea clearance, had begun a consistent climb towards the normal within four months after the acute onset in all of the patients that subsequently recovered.

*Presented by invitation to Cumberland County (N. C.) Medical Society, meeting at Fayetteville, June 9th, 1931.

In the unfavorable cases there is a gradual transition to the chronic active stage. The patient feels better, the blood pressure falls, and gross hematuria disappears. On the other hand the excretion of albumin remains high, and casts and significant numbers of red cells are found in the urinary sediment. The urinary protein consists almost entirely of albumin, with only 10 per cent. of globulin. It is the plasma albumin that contributes most to the plasma osmotic pressure. As a result of the continued loss in the urine the plasma albumin decreases until the osmotic pressure is no longer sufficient to retain fluid within the capillaries, and edema appears.

The development of this stage is not well understood. Patients are frequently seen in this condition who give no history of acute onset and in whom the disease is first discovered on routine examination, or when edema makes its appearance. In spite of such an insidious onset these patients may show the same sensitivity to streptococci as those whose disease starts abruptly.

S. D. applied for life insurance in June, 1928, but was rejected because of albuminuria and microscopic hematuria. Two months later edema developed, and in November, 1928, he was admitted to the hospital. For four months he continued to excrete large amounts of albumin, many casts and a few red cells in the urine. Early in March, 1929, he complained of chilly sensations at noon one day, and his temperature was found to have risen suddenly to 102° F. Physical examination showed nothing, but a throat culture was taken which showed hemolytic streptococci in practically pure culture. A specimen of urine obtained within 45 minutes of the first complaint was grossly bloody. Such an event serves better to illustrate the immediate and marked response of the kidney to streptococcal infection in a sensitive patient than would many skin tests.

The transition to the terminal stage comes gradually, with a permanent decrease of the urea clearance below 20 per cent. of normal, elevation of blood pressure, nitrogen retention, a diminution in the albuminuria, and coincidentally a rise of the plasma albumin and the loss of edema. For a time the patient is subjectively improved, but with further decline in renal function the well known symptoms of uremia supervene and death takes place in coma or convulsions, or as a result of intercurrent infection.

During and shortly after the acute stage

of glomerulonephritis logical treatment of the disease is directed at the causative infection. During all stages of the disease our increasing knowledge of the pathological physiology is leading to a more satisfactory treatment by dietary measures, fluid regulation, salt restriction, and other forms of therapy; but it cannot be said that any such measures alter the ultimate prognosis for the patient. Further study of the apparent state of sensitivity is needed, and if such sensitivity is found to be the fundamental factor in the development of glomerulonephritis, methods of desensitization will be sought after. This is the problem of glomerulonephritis and its solution does not seem to be close at hand.

URINARY ACIDIFIERS AND ALKALINIZERS

(Henderson, V. E., and Scott, J. M., Toronto, in *The Canadian Med. Asse. Jour.*, June 1931)

Ammonium chloride is absorbed as such, but the ammonia is converted into urea, the chlor-ion becomes free to neutralize base, and hence makes the urine more acid. Ammonium chloride can, of course, be given with hexamine.

R. Ammonii Chloridi	gr. xx
Hexaminae	gr. xx
Extracti Glycyrrhizae Liquidi	mm. x
Syrupi	dr. i
Aquae ad	dr. ii
To be diluted.	

Unfortunately, in many cases of cystitis, a definitely acid urine may cause an undue amount of pain and hence the urine must be kept more alkaline than usual. Sodium bicarbonate has been used for this purpose, but the employment of acetate or an acetate is much better. Large doses of acetates are frequently necessary. Hexamine is of no value, but boric acid may be of some value in decreasing bacterial growth.

R. Acidi Borici	gr. xv
Potassi Citratis	gr. xx
Glycerini	dr. i
Syrupi Aurantii ad	oz ss
To be diluted 4 times.	

Further, it is often found that the patient is more comfortable when hyoscyamus is given with the citrates, as in the following prescription:

R. Potassi Citratis	gr. xlv
Tincturae Hyoscymii	mm. xlv
Syrupi	dr. ss
Aquae Cinnamomi ad	dr. ii

It is astonishing how many women with apparently severely diseased hearts come through repeated pregnancies with remarkably little additional damage.—YOUNG, in *Canad. Med. Jour.*, August.

Treatment of Drug and Alcohol Habituation*

W. C. ASHWORTH, M.D., Greensboro, N. C.
Glenwood Park Sanitarium

I have, in previous papers, endeavored to state the multiplicity of causes responsible for the formation and continuation of the morphine and whiskey habits. I have endeavored to reckon with environmental conditions, financial reverses, domestic infelicity, heredity and other contributing causes of habit diseases, and to establish the fact that the use of habit-forming drugs often represents a form of cowardice, a disposition to flee from the difficult situations of life. So long as life flows on like a song for these potential addicts, they do not desire habit-forming drugs, but when the exigencies of life begin to come thick and fast, these individuals adopt the readiest means to obtund the sensibilities, deluding themselves with the erroneous belief that this is preferable to sensibly combating the troubles of life.

Many of these individuals are born with unstable nervous systems; they are constitutional psychopaths, mentally and nervously irritable. From time immemorial, mankind has desired—Noah, for instance—artificial stimulation. The desire to avoid the emotional strains of life, to escape from unhappiness, is responsible for many cases of drug and whiskey habituation. The likelihood of such yielding is greatly enhanced by the inheritance of a nervous system lacking in stability.

The withdrawal symptoms vary with the individual, but the usual addict, during the withdrawal period, prefers to say the mean and sharp things, rather than to be agreeable. They are antagonistic to all suggestions, suspicious, ill tempered, selfish and cranky, giving a great deal of unhappiness to their friends and relatives. The habitués have developed a definite psychosis with hallucinations and delusions of persecution, therefore, months are usually required for their recovery.

This perversion of personality is little realized by those whose experience with this class of patients is slight, which causes much misunderstanding and hinders adjustment of in-

dividuals to their environment. Of course, the unsolved problems of life in many instances cause one to resort to alcohol and other habit-forming drugs. If the physician is successful in solving these problems, he usually relieves his patient of the drugs, as well as his worries and unhappiness.

To be able to solve family difficulties requires wisdom and tact, not drugs; and this is one of the most valuable services a physician can render. In a large number of instances, the drinking of young people and the social drinking is simply an endeavor to ease up the wear and tear of life, to cut off all inhibitions, all restraint of authority, also to inhibit the sense of inferiority, to remove all restraints, so that the emotional side of life may be lived more intensely, and be enjoyed more abundantly. The ease with which relief from any annoying thing of life is obtained by the use of alcohol, inclines humanity to the use of this accessible narcotic. Both alcohol and opiates blunt unhappiness, both blunt the bitterness of failure, both bring temporary forgetfulness of memories too bitter to be endured.

The successful treatment of the alcoholic patient implies a psychologic rearrangement of the personality by finding some emotional compensation that will permit the individual to harbor in his consciousness the bitter unforgettable memories, and still control his actions through intelligence and not solely by emotional impulse.

The self condemnation, which the average alcohol or drug habitue feels, must be overcome by tactful psychologic treatment, since in a large majority of such cases a psychologic deficit must be supplied and inadequate psychologic personality dealt with. The majority of these habitués, both alcoholic and drug, manifest the same anomalies in their mental make-up as the insane. A large percentage of these habitués are constitutional psychopaths; their reactions are abnormal, therefore, their taking of drugs is in the ma-

*Presented to the Eighth District (N. C.) Medical Society, meeting at Winston-Salem, April 14th, 1931.

jority of instances a defense reaction to protect themselves from the stigma attached to the use of alcohol and drug.

I have frequently observed that a moral collapse is associated with the continued use of alcohol or drugs. The patient usually becomes enamored with the feeling of pleasurable stimulation (euphoria), and so continues to use the drug or stimulant, in order that he or she may continue to enjoy a state of lethargy and physical and mental inertia.

Of course, successful treatment of the alcoholic and drug patients who are confined in an institution, and who do not want to abandon the accustomed drug or stimulant, constitutes a very difficult problem. We must bear in mind that we are dealing with inadequate personalities, who make no attempt at reconstruction and who are on the alert to practice every sort of deception and every known form of resistance and lack of coöperation.

Narcosan and lipoidal substances, exploited by Horwitz, need only to be mentioned to recall the futility of these exploited remedies. The so-called gold cure, exploited by Dr. Keeley, has signally failed to be specific in any sense of the word. These are mentioned only to be condemned. Scarcely any drug in the materia medica is more inert than the gold preparation.

In the treatment of habit diseases, as in that of diseases in general, the basic etiological causes must be reckoned with, and their removal sought in every direction. I cannot stress too strongly the importance of individual treatment, which implies due consideration of the personal equation, temperament and idiosyncrasies of the patient. We cannot employ successfully any standardized, inflexible method of treatment, any more than we can standardize a treatment for the more common diseases. We have no specifics for the treatment of alcoholism, or drug addiction; each case must be regarded as a problem unto itself. The two most common methods of treatment are the sudden, or gradual, withdrawal of the alcohol and other habit-forming drugs. To my mind, the gradual reduction of the quantity of drug or stimulant used is preferable to abrupt withdrawal. It seems more rational to endeavor to reconstruct the nervous system of the patient dur-

ing the withdrawal period, rather than deprive the patient abruptly and thereby shock his nervous system to an unwonted degree.

It has been my observation that most patients treated by the sudden withdrawal method relapse very early. We constantly endeavor, of course, to obliterate the craving for artificial stimulation by all available remedies, but our efforts in this direction are seldom crowned with success. The successful treatment of any habit disease implies a complete rehabilitation of the outraged nervous system of the patient, which, if successful, usually obliterates the craving for artificial stimulation. We, therefore, in most cases, employ the gradual reduction method, coincident with the administration of such reconstructive nerve tonics and substitutes as will best enable the patient to abandon the narcotic drug or stimulant with only a negligible amount of discomfort. We desire especially to emphasize the importance of free elimination, which we regard as the golden thread which runs through a successful treatment of habit disease. We mean by free elimination, the use of selected purgatives, sweat baths, diuretics and such other agencies as will best tend to establish and promote free elimination. The bitter tonics—cinchona, gentian and nux vomica—and capsicum all have a place in the tonic treatment of these patients. Pilocarpine has its place as a diaphoretic, and has a tendency to destroy the craving for alcohol on account of its stimulation of the oral glands. Apomorphine is used discreetly for its hypnotic action, as well as its sedative effect upon the central nervous system. The remedies for relieving the insatiable and consuming craving for alcohol and drugs are almost legion. We especially wish to emphasize the great value of the mydriatic group of medicines—belladonna and atropine, hyoscyamus and hyosine.

The Lambert mixture consists of belladonna, hyoscyamus and prickly ash. We have found the Lambert treatment to be very satisfactory for habit cases, whiskey and morphine, provided the treatment is sufficiently modified to make it humane. The treatment, however, should not be exploited as a specific.

Just at this time I wish to emphasize that the physician in charge of the alcohol and drug patient must be temperamentally fitted

for his job. He must be familiar with psychotherapy and recognize the importance of strong mental suggestion. He must also fully recognize the value of human touch and have a large amount of sympathy, though, he must not allow his sympathy to overshadow his better judgment.

" 'Tis the human touch in this world that counts,
The touch of your hand and mine,
Which means far more to the fainting heart,
Than shelter and bread and wine.
For shelter is gone when the night is o'er
And bread lasts only a day,
But the touch of the hand and the sound of the
voice,
Sing on in the soul away."

Tolerance for narcotic drugs is, according to Bishop, established by the presence of anti-bodies in the system. I am convinced that the so-called withdrawal symptoms of alcohol and narcotic drugs are largely due to the fact that the anti-bodies become disseminated in the system. These anti-bodies are very irritating to the delicate nerve endings and, as a consequence, neuritis and other distressing symptoms follow in the wake of the withdrawal of the alcohol and narcotic drug.

I do not think that we have any definite pathologic change from the prolonged use of morphine; but it is obvious, in most cases, that we do have a diseased mechanism. Of course, the reverse is true in regard to alcohol and cocaine. The chronic alcoholic or cocaine habitué always suffers from more or less sclerosis of the brain and nervous system. Sometimes, we also find the "wet brain" as a direct result of the continued use of alcohol. The delirium, *mania a potu*, sometimes observed following the sudden withdrawal of alcohol, is in my judgment due to the liberation in the brain and nervous system of toxins and anti-bodies.

I have never observed delirium tremens in the alcoholic case except when the alcohol had been withdrawn abruptly. Delirium tremens, it therefore follows, can be best prevented by a gradual rather than an abrupt withdrawal of the whiskey. The question often arises as to the curative and abortive effect of whiskey in the presence of delirium tremens. It has been my practice in these cases to give the patient suffering from alcoholic delirium whiskey in liberal quantities. I have found paraldehyde in liberal dosage to

be one of the best remedies to abort threatened alcoholic delirium.

Of course, we will not lose sight of free elimination by way of the bowels, skin and kidneys. The successful treatment of alcohol and drug addiction implies more than the simple administration of medicines. The psychology of the individual patient must receive due consideration. Psychotherapy and strong mental suggestion contribute in no small degree to the recovery of the alcoholic or drug patient. The physician in attendance must be temperamentally fitted for this sort of work, if he is to secure the full coöperation of the patient. The success of the treatment presupposes that the physician in charge must himself cultivate composure. In other words, the physician must cultivate a stoical disposition, with firmness, but kindness at all times. No harsh restraints should be imposed upon the patient, but only the observance of such rules and regulations as are necessary for the proper discipline of the institution and the well-being of the patient.

The alcohol and drug habitués differ, and their environments differ; but temperament and environment determine for each individual his form of habituation. A temperament without fortitude to suffer pain, without health to enjoy what appeals to and satisfies the strong, seeks his solace in artificial stimulation. So, the soul weary of the day's toil, the depressed in spirit, the disappointed, seek victory or solace in some drug which will bring oblivion. The will of the average psychasthenic, with all his conflicting emotions, oftentimes forbids the use of alcoholic or narcotic drug, but is satisfied with some simple religious faith, strong ideal, or sweet influence of oblivion, which may fill the measure of his needs. So, even the love of a good woman may, for a time, restrain a man from his habituation to alcohol.

"No, Saki—take the wine away!
I have no need of it today;
So drunk am I with adoration,
No longer have I any need
Of commonplace intoxication!
How should a man whose eyes may drink
Her beauty, like the Northern Star,
In a delicious meditation,
Remain contented any more
With common wine out of a jar?
No, Saki—take the wine away."

The Effect of Posture in Effort Syndrome*

WILLIAM ALLAN, M.D., Charlotte, N. C.

The effort syndrome, as defined by Sir Thomas Lewis,¹ is that collection of symptoms which are produced in health by strenuous exertion. These symptoms are: breathlessness without cyanosis, fatigue and exhaustion, palpitation, vertigo, tachycardia, tremor, sweating, occasionally precordial pain and fainting. He measured the reaction of these patients to exercise by the height of the pulse rate and the systolic blood pressure immediately after exercise, and the time required by these two factors to subside after lying down.

I have tabulated the findings in 20 cases, 13 men and seven women, who complained of these symptoms steadily. Their ages ranged from 10 to 34, the average being 24. In only one was there a family history of tuberculosis. Fifteen gave a history of some acute febrile infection immediately preceding the onset of their symptoms, though their disability had continued for months after a normal convalescence should have ended. Physical examination and examination of blood and urine revealed nothing but general ptosis in two. The heart size was normal in all, with systolic apical murmurs in two. Loss of weight or malnutrition was evident in two-thirds. The average pulse rate at rest was 86 and after hopping 50 times on one foot was 139. Lying down two minutes failed to restore the pulse rate to its starting point in 14. These patients seem to portray the usual picture of effort syndrome as seen during the war.

In addition to the conventional picture of effort syndrome there is a similar picture which becomes evident simply by change of posture, from lying to standing. Lewis calls attention (p. 24) to the fact that "in effort syndrome the pulse shows an exaggerated reaction to posture" and states that normally the fall in blood pressure in the brachial artery on standing is about 10 mm. Hg., though it may be considerably more than this in patients who develop vertigo on rising. On

the other hand it is known that in some persons the systolic pressure rises on standing.

Sex	Age	Pulse Rate		Syst. Pressure		Diast. Pressure		Pulse Pressure	
		L	S	L	S	L	S	L	S
M	23	90	144	118	104	70	80	48	24
M	18	52	102	123	108	70	96	53	12
M	26	75	150	115	100	80	105	35	15
M	26	96	120	130	112	90	98	40	14
M	22	60	108	128	100	70	90	58	10
M	24	90	156	130	120	94	105	36	15
M	53	78	110	105	95	75	85	30	10
M	16	120	144	132	100	78	90	54	10
M	22	78	100	124	120	80	95	44	25
M	30	84	120	140	145	90	115	50	30
M	20	72	90	108	102	65	90	43	12
M	43	90	108	140	128	90	108	50	20
M	18	66	100	140	135	80	103	60	32
M	18	72	90	132	110	70	82	62	28
M	23	72	120	120	110	75	95	45	15
M	34	72	144	110	95	75	80	35	15
M	33	78	108	120	95	85	85	35	10
M	30	60	80	128	115	80	90	48	25
M	49	100	120	135	100	80	85	58	15
F	30	72	100	160	128	95	102	65	26
M	27	54	96	110	92	60	80	50	12
M	23	100	132	120	105	80	85	40	20
F	24	72	112	98	88	65	78	33	10
M	40	60	78	110	100	80	82	30	18
F	27	80	120	110	90	68	80	42	10
F	36	90	108	128	105	88	90	40	15
M	20	84	108	145	148	80	108	65	40
—	—	—	—	—	—	—	—	—	—
Ave.	28	79	114	124	110	78	92	46	18
M	24								
F	4								

The patients I shall describe show a profound vasomotor relaxation when standing, and complain of all the symptoms of effort syndrome: breathlessness, fatigue, vertigo, tremor, sweating, cold cyanotic hands, tachycardia and palpitation. The longer they stand the more pronounced these symptoms become, with a tendency to faint. When they lie down all symptoms disappear. I have tabulated the findings in 27 cases of this vaso-

*Presented to the Mecklenburg County (N. C.) Medical Society, meeting at Charlotte, July 7th, 1931.

motor instability. This picture was seen chiefly in young men in the third decade who, after being accustomed to vigorous exercise, had gone to work indoors, with a consequent deterioration in muscle tone. There was a family history of tuberculosis in four. In contrast to the typical effort syndrome, only three gave a history of any immediately preceding acute infection. Two had been chronic alcoholics. Physical and laboratory examinations revealed nothing but general ptosis in five and diabetes in one. Nutrition was below par in half and the muscles were flabby in three-fourths. There were no instances of cardiac enlargement and no murmurs. When lying down the average pulse rate was 79 with average blood pressure 124/78, giving a pulse pressure of 46. On standing up the average pulse rate was 114 with average blood pressure 110/92, giving a pulse pressure of 18.

Thus, on simply rising from a reclining position there was an average increase of 35 beats in pulse rate; in 25 the systolic pressure fell, and in 26 the diastolic pressure rose, the average pulse pressure falling during this change of posture from 43 to 18.

To restore this loss of vasomotor tone it is necessary to improve nutrition and to restore muscle tone by graduated daily exercise.

Reference

1. LEWIS, THOMAS: *The Soldier's Heart and the Effort Syndrome*. P. B. Hoeber, N. Y., 1919.

WHEN TO STOP DIGITALIS

(J. W. Thornton, Lansing, Iowa, in *Jl. Iowa Med. Soc.*, Aug.)

Digitalis should be stopped, or at least the dosage should be decreased:

When digitalization is shown by the electrocardiogram.

When desired results are obtained, as disappearance of edema, slowing and regularity of the pulse, etc.

When anorexia, nausea or vomiting occurs.

When headache, dizziness, light-headedness, or delirium occurs.

When visual disturbances appear.

When the heart rate falls below 60.

When tachycardia occurs without obvious cause.

When frequent premature beats occur.

When coupled rhythm occurs.

When a previously regular ventricular rhythm becomes irregular or intermittent.

When sinus arrhythmia appears in normal rhythm cases or phasic arrhythmia in auricular fibrillation cases.

THE SIGNIFICANCE OF A RAISED BLOOD PRESSURE (Hay, John, Liverpool, in *The British Med. Jour.*, July 11th, 1931)

I do not believe that it is wise to give the patient detailed instructions as to diet. He should grasp the main principle—namely, that the diet must be simple, wholesome, and small in amount.

It is well to remember that the blood pressure is constantly varying both in health and in disease, and that, within certain limits, the normal has been established. When the figures pass beyond this normal there is a corresponding diminution in the expectation of life. It is therefore a physical sign worth investigating in every patient, especially when there is a known familial tendency to cardiovascular disease. There is here a wide field for study, more particularly for the general practitioner.

ACCIDENTAL EMPLOYMENT OF IODINE FOR GOITRE IN SOUTH AMERICA 100 YEARS AGO

(Observations by a French physician, M. Roulin, in *Journal de Physiologie*, Juillet 1825, reviewed in *Medical Recorder*, 1826)

In the province of Maraquito the goitre was at one time unknown, and the women were even remarkable for their beauty. But it had become exceedingly common within 50 years, and in particular it was remarked that many strangers took the disease after five or six years' residence. Many unsatisfactory explanations occurred to him; but, at length he discovered that a liquor, produced by draining in linen bags the salt of certain mines, had been long used for curing the disease, but that for some years back a different salt from another quarter had been used instead of it. M. Roulin tried the efficacy of the first preparation, and his trials left no doubt that it cured goitre. On a subsequent occasion, he got the different salts in question analyzed by Boussingault, who found that the useful liquor contained a considerable quantity of iodine; that there was a small portion likewise in the salt from which the liquor was drained; but that the salt of Zipaguira, which had been substituted for the former, did not contain any iodine.

Successive ages, and every country, witnessed a great variety of internal remedies, all of which, after enjoying temporary reputation for infallibility, have been found to be entirely inefficacious, and even unable to alleviate a single symptom. The mere catalogue of these remedies would fill a page.—ROBERT WHITE in *Medical Recorder*, 1826.

Calomel is a very good purgative in this state of the system, but I think the extract of white walnut is much better. Dr. Henderson has used, for a great many years, the extract of white walnut, with great success, in the treatment of the cholera of infants.—S. A. CARTWRIGHT, Natchez, *Medical Recorder*, 1826.

The Hemorrhoid Problem in General Practice

J. F. MONTAGUE, M.D., New York City

Medical Director, Montague Hospital for Intestinal Ailments

Though rectal diseases and the pathology of the lower portion of the digestive canal are beginning to receive attention comparable to that given to affections higher up in the alimentary tract, the average graduate in medicine is given but poor preparation for dealing with these conditions when he meets them in general practice. This is not a fault of the doctor but of the educational system of which he is the product—I almost said the *victim*. The faults in our present system of medical education are numerous, and have been abundantly pointed out by those better able to discuss the subject than I am. The slighting or entire omission of proctology in the general training of the medical student is merely a case in point. The best schools today are giving the subject consideration more commensurate with its importance. The older graduates—those who make up the main body of the medical profession at the present time—will have to make good the defects in their training as best they may. Many of them have already done so, employing the only method available to them—that of *trial and error*. It is to shorten up this method and, if possible, reduce its waste and hazards, that the following suggestions are offered.

Hemorrhoids are the end result of a pathologic condition of the veins of the rectum and anus. The effect of this condition communicates itself to the tissues lying directly above and below these veins. The disease begins by dilatation of the blood vessels, which later progresses to varicosity, or thrombosis, and often rupture of the venous wall. This process of varicosity in the ano-rectal region is fundamentally no different from a like process anywhere else in the body.

Herewith are submitted some of the views on etiology held by many writers. Local conditions, however, have a marked effect upon its manifestations. It is sufficient to recall that the hemorrhoidal veins have no valves, and that they take their origin immediately beneath the skin and the mucous membrane within and without the anus. Those taking their rise in the membrane discharge their content into vertically ascending veins which

follow these folds which bear the name of the columns of Morgagni. The hemorrhoidal veins cannot reach their main outlets or trunks without passing through either the sphincter muscle or the levator ani. As the process of defecation necessitates the constant contraction and stretching of these muscles, it is evident that the veins are subjected to strain and distortion of a most extraordinary kind. Further, these veins form a connecting network, anastomosing the two different venous systems present in this area. The blood passing through the superior hemorrhoidal veins is conveyed to the portal vein; that through the median and inferior hemorrhoidals to the vena cava. If the liver be diseased, or pressure is exerted—as in pregnancy or the growth of pelvic tumors—the veins of either system may be subjected to conditions producing stasis, and hemorrhoids may be the result.

However satisfying this theory may be I believe that the actual cause of hemorrhoids is rather hard to postulate. It is customary to attribute them to constipation, to the increase in intra-abdominal pressure induced by the conditions attending intestinal stasis, and possibly to the traumatizing local effect of hard masses of feces upon the walls of the ano-rectal canal. Many of the causes supposed to produce gout, the disease of high-livers, have been assigned to hemorrhoids also. Related to this perhaps, is the matter of sedentary occupations, though the idea of trauma due to continuous sitting, horseback riding, and so on, no doubt plays a part as well. Each of these causes seems to me equally important as compared with the anatomical facts cited above.

SYMPTOMS AND DIAGNOSIS

Since hemorrhoids do not seem ever to be a congenital condition it stands to reason that some physicians must see the onset; but to the majority of us the patients seem all to be "old chronics", who have "suffered for years", and in thinking of the hemorrhoid patient this is almost invariably the type which comes first to mind. Pain is their most impelling, and often their only, complaint. Sometimes

this is practically continuous; more often it is manifested only when efforts at defecation are made. Hemorrhage is likewise a prominent feature; at times merely enough to tinge the water in the receptacle into which feces are passed; again an alarming flow of bright red blood, causing enough blood loss to make the patient distinctly anemic. Prolapse too, is not uncommon. During defecation, or even merely when the patient is in motion, as in walking or stair-climbing, or upon sudden coughing or sneezing, the engorged veins will prolapse, so that the hemorrhoids are incarcerated by the sphincter ani. This is not only a very painful feature of the condition; it is psychically most distressing, for the unfortunate victim is obliged to replace the prolapsed mass as best he may, and it generally means the greatest inconvenience and embarrassment. I shall not speak here of strangulated hemorrhoids, or discuss the differential diagnosis of hemorrhoids from other rectal diseases, except to mention, as I feel it my duty to do, in season and out, the very great importance of making sure we are not dealing with a rectal cancer.

The prevalence of cancer of the rectum,—which is greater than statistics would have us believe—the long delay which usually takes place before it is recognized, and the immense advantages gained in treating cases which are seen early in the course of the disease make it incumbent upon every medical man to whom a patient comes with rectal bleeding, that he make a careful exploration. This is absolutely essential in patients of cancer age, and should not be omitted in any case where the slightest suspicion exists. In general, it should be borne in mind that bleeding from the anus is a symptom common to a number of rectal diseases, that though cancer is the most feared of these, others, fissure-in-ano for example, are very painful and, if neglected, are likely to lead to more serious conditions. This all merely serves to emphasize the need for careful attention to *any* complaint referred by the patient to the rectal region. It is possible for one to be suffering from hemorrhoids as well as some other condition and, in turning our attention to the one most prominent, we can easily ignore something that is working silently, but, most likely, steadily, toward the patient's destruction.

No proper examination can be made without employing a proctoscope, and the equip-

ment of every physician should contain the absolute essentials for examination of the rectum. Today it is as important to possess such aids to precision as it is to have a sphygmomanometer or a clinical thermometer. The general physical examination cannot be regarded as complete unless the condition of the rectal canal has been ascertained, so how much more imperative it is to have on hand the instruments proper to diagnose a complaint confined to the rectal region. There are several good specula on the market, but I consider the one made by the Welch Allyn Co. according to my own design to be superior. The reason for this is obvious, and it is not lack of modesty which leads me to make so positive a statement. If I had not found it an improvement upon those previously in use, I should have rested content with what I already had, and not gone to the very great trouble and expense attendant upon getting up something new.

The great fear of being hurt which the average patient entertains when he is informed that a rectal examination must be made, is largely due to the inexpert passing of the speculum, of which he has heard rumors. There is a best way to do everything and in nothing is this more true than in the passage of the various scopes employed by physicians to examine the interior of body cavities. It was once thought necessary to give a general anesthetic for any examination of the rectum beyond the most cursory digital one. This idea has been done away with entirely, and today, except perhaps when an extremely painful anal fissure is present, no anesthesia of any kind will be required. The advantages of the instrument of my own designing are the ease with which it can be passed and kept in place, or the necessary degree of dilatation brought about, without anything more than the most transient inconvenience to the subject of examination. No one should attempt to examine the rectum unless he is thoroughly familiar with the anatomy of the parts, and has a certain amount of that natural dexterity which is required in many another branch of the diagnostic art.

After retracting the nates and inspecting the perianal region, the gloved finger (well lubricated with KY lubricant) should be inserted with the utmost gentleness into the anal canal. This serves to overcome the initial spasm of the sphincters which is infinitely

more painful if it occurs at the outset of the instrumental portion of the examination. When the finger is well within, the patient should be requested to bear down, and as he does so the finger should be gently withdrawn. If the hemorrhoids are inclined to prolapse, the mass is likely to follow the withdrawing finger, and this will at once permit ready inspection. This should not satisfy the examiner, however. Even if there remains no doubt that the patient is suffering from hemorrhoids, the remainder of the examination should not be slighted or omitted. The sphincter should be sufficiently relaxed by these initial procedures to make the introduction of the rectoscope, will lubricated of course, painless. Care should be exercised to keep the beak of the instrument away from the coccyx, using a steady downward pressure, but never relaxing care to avoid all haste and roughness. The pressure should be along the axis of the anal canal at first, then, upon the axis of the rectum itself. With the instrument inserted as far as required, the next step is to remove the obturator, making possible a clear view of the walls of the rectum and anus, as the instrument is then gradually withdrawn. Careful inspection of these parts will often reveal the existence of an unsuspected fistula opening, or an anal fissure, responsible for all or part of the bleeding attributed by the patient to piles. Even the medical man who has but rare opportunities to make such inspections can familiarize himself with normal appearance of the tissues, and detect any variation therefrom, and he will find the acquisition of such knowledge of the greatest use in practical clinical work.

Assuming that digital and rectoscopic examination reveal nothing more than the hemorrhoids for which the search was instituted, we now come to the very important matter of

TREATMENT

Three procedures are open to us: 1—palliative measures; 2—operation, and 3—injection treatment.

The first of these I mention only to condemn it. If the condition is sufficiently severe to require any treatment, then something more than the usual temporizing should be put into action. This does not exclude the use of the hot sitz bath or similar means of effecting immediate, though usually temporary, relief. It refers in particular to the em-

ployment of salves or suppositories, which cannot possibly get to the seat of the trouble, and the sole effect of which is to lull the patient into a false sense of security.

When we come to consider operative procedures, we at once enter upon a far wider field of inquiry. Surgeons have attempted to relieve the sufferers from piles for many hundreds of years, for it would seem that cutting them out has appealed to men of all ages and many races as the logical way of permanently getting rid of a troublesome and painful ailment. Today, in this country, we have two main procedures for the operative removal of hemorrhoids; 1—excision after ligation, and 2—the clamp and cautery method.

Excision after ligation is the most usual procedure. I have never formulated any rule in regard to choice of method; it must be adapted to the circumstances of the individual case. In general, if simple internal hemorrhoids are inflamed or prolapsed, ligation with excision is the suitable method. If the condition has proceeded to thrombosis, with ulceration and perhaps gangrene, the clamp and cautery intervention is to be preferred. In the final test it is the skill and judgment of the operator, rather than the method employed, which spells failure or success in any given case.

Of the Whitehead operation, once so much used, I can say nothing commendatory. It is now generally condemned and abandoned everywhere. It has been justly accused of tending to be followed by excessive hemorrhage, of inducing retention of urine post-operatively to such an extent as to be most alarming and injurious, and, more remotely, of favoring cicatricial stenosis and eversion of the anal mucous membrane. The hazards attendant upon its employment are so great that it is folly to permit this operation to be done when other less uncertain and far less painful measures are known and readily put into practice.

Though many quite extensive rectal operations *can* be done under local anesthesia, the majority of patients are unwilling to consent to its use except at the instance of the specializing proctologist. So general anesthesia must be accepted as a part of the procedure, and the time necessary for recovery makes a week's stay in the hospital practically impossible to avoid. The period of convalescence

is often more protracted and, on the whole, the operative treatment of hemorrhoids looms as a decidedly formidable matter.

For these, and many other reasons, the injection treatment of hemorrhoids is enjoying a continually increasing popularity. This is not a new method, but it may be said to have only recently become respectable. Though first used more than 50 years ago, its virtues were, unfortunately, promptly recognized by quacks, who maintained great secrecy about it and succeeded in making ethical medical practitioners exceedingly shy about making open use of something that smacked of charlatanism. Fortunately, this attitude is now practically done away with. The injection treatment has come to be accepted as a means of obliterating hemorrhoids which does not hospitalize the patient, requires no anesthesia, and has no unpleasant after-effects. It bids fair to displace operation entirely in certain types of cases, but like the older methods, requires considerable skill in its application, and discrimination in the choice of cases for which it is suitable.

Technique of injection—The details of the technique differ somewhat in the hands of its different advocates. The solutions injected likewise show considerable difference in their constituents. Many take the most elaborate precautions and compel the patient to undergo complicated preparations. I have never found all this necessary or advisable. When my injection anoscope (Welch Allyn) has been inserted under suitable precautions, it is enough to cleanse the surfaces to be injected with a few large cotton swabs, sufficient to wipe away the mucous secretion always to be found there. Dryness is all one can hope for in this region, asepsis is out of the question, and no matter how patiently it is sought for, a sterile field is impossible. A number of different formulae have given me satisfaction for the injection solution, so I cannot recommend any one in preference to all others. The use of more than one active drug in a given solution is unnecessary, and as what we seek to accomplish is to bring about a mild chemical inflammation of the tissues, the employment of very strong drugs is to be discounted. I always use cresylic acid in preference to carbolic (which many practitioners use regularly) because, though its properties are the same as those of carbolic acid, it is far less poisonous. Urea hydrochloride, an-

other favorite substance for such solutions, is often recommended because of its low toxicity. It is quite true that it is less poisonous than cresylic acid, but it is also—at least in my experience—decidedly less efficient. The vehicle may be either distilled water or sterile oil.

The technique consists in exposing the hemorrhoid, piercing the center of the pile with the needle and slowly injecting the contents of the syringe, until the mass begins to show blanching, when injection should be instantly stopped. It is safer to inject too little than too much. At the worst we may have to give another, or even several injections; whereas too large an injection, or worse, too strong a solution, may mean serious necrosis and sloughing, with all their attendant pain and other graver evils. As the needle is withdrawn a single drop of the solution should be injected just beneath the mucosa. This stops the needle puncture and seals the wound from infection and loss of blood or escape of the injected solution. It is a wise precaution to inject into the rectum some antiseptic ointment or paste, with paraffin oil or vaseline, to protect the mucosal lining of the canal, and provide against having the first bowel movement a cause of great pain. I think it also lessens the chance of prolapse, which has been brought forward as an objection to the use of the injection treatment.

Occasionally the injections have been followed by necrosis of the issues treated. This is a very serious drawback, and one we should take every precaution to avoid. It should not follow careful technique, and the selection of a solution of suitable strength.

I should perhaps, offer a word of caution in regard to the indiscriminate use of the injection method. It is undoubtedly a very simple procedure, but it is by no means fool-proof, and requires a good surgical judgment and proper knowledge of the structure of the blood vessels, the reactions of tissues under chemical stimulation, and the relations of the capillary to the venous circulations, not to mention other anatomical information. But used with intelligence and skill in suitable cases, it is undoubtedly our best method of treating simple internal hemorrhoids.

—139 East 36th Street.

Eclampsia is a medical disease (J. R. McCORD, Atlanta, in *Tenn. Med. J.*, Aug.) and is best treated in the vast, vast majority of cases in a medical way.

Infarction of the Myocardium

C. C. CARPENTER, M.D., Wake Forest, N. C.

The Department of Pathology, Wake Forest College School of Medicine

Great progress has been made in the last few years in the recognition and proper treatment of diseases of the heart. Formerly, great stress was placed on valvular lesions. The profession now realizes that more importance should be placed on degenerative or senile changes. Myocardial weakness without valvular lesion has become of great practical importance. It is of great importance economically, and in certain instances medicolegally. Statistics would prove that coronary thrombosis and infarction of the myocardium are becoming more frequent. It is interesting to note that of the last 1,000 autopsies performed at the Syracuse University morgue, 88 cases, or 8.8 per cent., showed coronary occlusion due to arteriosclerosis. Of the last 400 autopsies 101 cases showed gross heart change, 45 showed lesions due to arteriosclerosis of the coronary arteries. Such frequent findings at autopsy has put the clinician on guard with the result that this condition is being oftener recognized clinically. An early diagnosis is of great importance. The distinction from other anginal pains, and confinement to bed may mean the difference between life and death.

ETIOLOGY

Infarction of the myocardium, as in infarction elsewhere, is caused by complete stoppage of the vessel supplying the part. Death of the tissue follows. Although the coronary arteries are terminal arteries, there is some anastomosis, however, not sufficient to supply the active circulation which is necessary for such an organ as the heart. The occlusion is brought about in the great majority of cases by a thrombus formed in the vessel, as a result of arteriosclerotic destruction of the endothelium. It is possible for an embolus to lodge in one of the vessels, but the anatomical location of the coronaries behind the cusps of the aortic valve makes this very unlikely. There may be only a narrowing of the lumen, from arteriosclerotic thickening, or from puckering of the aorta as observed in syphilis. This would not produce an infarction,

but it would produce a partial anemia of the heart muscle. In most cases there appears to be a small arteriosclerotic thickening in one side of the wall of the vessel. This causes no noticeable injury until destruction of the endothelial lining takes place. Following this, platelets adhere to the roughened area and a thrombus is formed occluding the vessel. When the vessel is thus occluded, necrosis of the tissue supplied by this vessel follows. Such a necrotic area is soft and swollen. The cells as observed under the microscope remind one of the appearance of charcoal as contrasted with that of living wood. Such a mass of dead cells excites an inflammatory reaction. If the outer part of the heart wall is involved an exudate is formed producing a friction rub. Likewise, injury to the lining of the cardiac chambers causes a destruction of the endothelium, and a thrombus may be formed.

SYMPTOMS AND DIAGNOSIS

Infarction of the myocardium produces all the different types of pain and anxiety experienced in disturbances of the coronary circulation from any cause. The pain is usually intense, but in some cases it is slight. The patient feels that death is near. As John Hunter said about his own case, "To have any other affection is to be sick, to have this is to be dying." The pain may be precordial, substernal, in the left shoulder and neck, or in the epigastrium. The attack may or may not be associated with exertion. Where there is only a narrowing of the coronary, the patient may complain of attacks of varying intensity over a period of years, at such time when there is a demand for an increased blood supply to the myocardium, which cannot be supplied. Finally there is complete occlusion with severe pain and collapse. Or there may be complete occlusion at the first attack. It may well be compared with intermittent claudication, in which there is a narrowing of the arteries supplying the leg. The patient is in comfort while sitting, but on walking rapidly intense pain in the leg is experienced,

because the demand for more blood cannot be met. These vessels may go on to complete occlusion which in the extremity causes gangrene.

I want to call your attention especially to the patients who complain of pain in the epigastrium with belching of gas. Following a big meal and some slight exertion the patient complains of severe epigastric pain, with distention and belching of gas. The physician neglects to examine the heart carefully and for want of something better to say tells him he has acute indigestion. He may recover from this attack only to drop dead a few days later from occlusion of other branches or rupture of the heart.

The age at which infarction of the myocardium should be expected is the same as that of arteriosclerosis. It is rarely seen before the 40th year. It is about four times as frequent in men as in women. It may be looked for more often in those who give a family history of early arteriosclerotic changes. Those who have lived a high-pressure life are more frequently its victims, such as business men, lawyers and physicians.

During the attack, on physical examination we may find the patient collapsed or fairly well composed, according to the size of the infarct. The blood pressure varies according to the weakness of the heart and to the presence or absence of general arteriosclerosis. In a large infarct without a previous high blood pressure it is low during the attack. If it was already high it may even go higher during the attack. The heart is irregular in the great majority of cases. This may be only slight and should be looked for carefully. The temperature goes up following the attack to around 100°. A precordial friction rub may be heard at this time. The friction rub and arrhythmia may be fleeting, but the heart sounds will remain distant for several days. Along with cardiac weakness rales may be heard at the base of the right lung. We have performed autopsies in cases in which this sign became quite marked and a diagnosis of pneumonia had been made. A few cases present nothing on physical examination of very great value in making a diagnosis. These can be diagnosed only by elimination of other possibilities and observation over a period of time.

DIFFERENTIAL DIAGNOSIS

In the differential diagnosis we have to consider thoracic aneurysm, intercostal neuralgia, the so-called indigestion, which includes gastric ulcer, gall-bladder disease and appendicitis, and ordinary angina pectoris.

In thoracic aneurysm, a dull area may be mapped out in the region of the aorta; there is usually a pulsation and a murmur double in time; there is a diastolic shock and a tracheal tug, and the pain is more likely to come on at night and to be continuous.

Intercostal neuralgia occurs at all ages. The pain is short and not associated with exertion, although quick movements may increase the pain, and there is tenderness along the intercostal nerves.

In gastric ulcer, gall-bladder disease, or appendicitis, there will be the characteristic symptoms of these conditions.

Ordinary angina pectoris is more often associated with exertion or excitement. It is likely to develop in those who have had friends or relatives die of heart disease, or who know that they have a heart murmur. Heart disease to them means sudden death. In this type of angina the temperature does not go up following the attack and a friction rub is not heard. This is usually relieved by the inhalation of amyl nitrite; but any attack of angina pectoris which is not relieved by amyl nitrite, but requires repeated doses of morphine for its relief, should be considered as a case of infarction of the myocardium until the diagnosis is definitely established.

Three interesting cases have been selected from a series of autopsies representing different types:

Case Reports

1. Autopsy No. CM-2468—male, age 52. Occupation, manager of hotel. Previous history revealed nothing, aside from the usual childhood diseases and pneumonia at 30 years.

Present illness began 6 months ago. While hurrying across the street in front of traffic he was seized with moderately severe precordial pain and shortness of breath. He sat down for a few minutes after which he was able to go on home. He felt exhausted that evening but was able to continue his work the next morning. His health was good during the next few months aside from an occasional tightness in his chest, which he attributed to excessive smoking. Twenty-four hours before death he was found at the head of the steps by his wife.

He had an ashy gray color, and was groaning with intense precordial pain. No time was lost in bringing him to the hospital. Morphine, gr. $\frac{1}{4}$, was given and repeated in about 20 minutes. T. normal. P. 88 with an occasional dropped beat, B. P. 110/80. The cardiac irregularity did not appear alarming during the night. His temperature rose to 100 $\frac{2}{5}$. Morphine, gr. $\frac{1}{8}$, was given hypodermically every three hours. The following morning he suddenly died. At autopsy, the heart appeared to be about the usual size. Epicardium was without evident lesion. On section, the myocardium in the anterior wall of the left ventricle was of dark reddish color and slightly softer than the surrounding tissue. In the anterior branch of the left coronary artery, about $\frac{1}{2}$ inch from its bifurcation with the circumflex branch, there was a thrombus completely occluding the vessel. Beneath this was a yellowish arteriosclerotic plaque.

2. Autopsy No. CM-2496—Male, age 58. Occupation, real estate dealer.

Previous health—Had measles, whooping cough and mumps as a child. Fractured left forearm at age of 26 in a fall.

Present illness began six years ago, at which time he began to have what he called attacks of wind on the stomach. During this time he had one attack of transient hemiplegia and two attacks of transient aphasia. On one occasion six months ago he was found suffering intense epigastric pain, and in a state of terror, begging those around him not to let him die. This attack came on suddenly, as other less severe attacks had done. A few hours after the attack his systolic blood pressure was 190. After three days' rest in bed it was reduced to 150. His heart sounds were impure but only slightly irregular. His attacks became more frequent until his sudden death in an attack six months later.

At autopsy there were dense fibrous adhesions between the visceral and parietal pericardium at the apex of the left ventricle. In this same area the wall of the heart was thin, measuring only $\frac{1}{8}$ inch in thickness as compared with $\frac{1}{2}$ inch in the remainder of the ventricle. This area was grayish in color and apparently made up of fibrous connective tissue. It produced an aneurysm two inches in diameter, on the inner surface of which there was a thrombus about the size of a hen's egg. The orifice of the left coronary artery was narrowed, and the right was almost completely occluded by arteriosclerotic thickening. In the anterior branch of the left, 1.5 c.m. from its bifurcation with the circumflex branch, there was an arteriosclerotic thickening occluding the vessel.

3. Autopsy No. CM-24126—Male, age 60. Occupation, farmer. Previous history revealed nothing of importance.

Present illness began two years ago, when he began to have attacks of precordial and substernal

pain, very sharp and at times radiating to his left shoulder. Went to see a doctor who found his heart irregular and weak. He was told to give up work for a few months, which he refused to do. Eight months later he became very short of breath, staying in bed a good portion of the time. Two months before death, he was admitted to the hospital. His heart at this time showed marked irregularity. His pain was of moderate severity. He was given digitalis and morphine as necessary. He failed to show any marked improvement at any time, and died two months after admission.

At autopsy, the pericardium was apparently normal. The ascending aorta showed several arteriosclerotic thickenings. Valves were without evident lesion. On opening the coronary arteries the branches of the left showed marked arteriosclerotic thickening as far as they could be followed. The myocardium of the left ventricle showed on section, several grayish fibrous areas from $\frac{1}{8}$ to $\frac{1}{4}$ inch in diameter.

TREATMENT

In the treatment of these conditions during the attack, the first thing of importance is to keep the patient absolutely quiet. Morphine should be given hypodermically as needed to control the pain. If the blood pressure is high an attempt should be made to reduce this as rapidly as possible. Digitalis is contraindicated in all cases of fresh infarction. The period of rest in bed should be long enough to allow the area to completely heal with scar tissue and become firm. This takes from four to six weeks. Unless these patients are kept in bed a sufficient length of time, many cases will end in sudden death from rupture of the heart wall. Between the attacks the patient should be instructed to live a well regulated life free from mental and physical strain.

SUMMARY

1. The clinical recognition of infarction of the myocardium is of great practical importance in prognosis and treatment.

2. Most cases are caused by arteriosclerotic thickening and subsequent thrombus formation in a branch of the coronary artery.

3. It may be expected at any time after the 40th year.

4. Every case of intense precordial or epigastric pain requiring morphine for relief should be studied carefully.

5. Prolonged rest in bed is necessary to allow complete healing of the damaged myocardium.

References

1. PARKINSON, JOHN, and BEDFORD, D. EVANS: Cardiac Infarction and Coronary Thrombosis. *The Lancet*, 214:4-11, Jan. 7, 1928.
2. FROTHINGHAM, CANNING: A Case of Coronary Thrombosis. *The Medical Clinics of North America*, Vol. X, No. 5, March, 1927.
3. *Monographic Medicine*, Vol. V.
4. WILLIUS, FREDERICK A.: Infarction of the Interventricular Septum with complete HeartBlock and Stokes Adams' Seizures. *The Medical Clinics of North America*, Vol. X, No. 30, Nov., 1926.
5. MACCALLUM: *A Text-Book of Pathology*.
6. LUTEN, DREW: Coronary Thrombosis of Lesser Severity with Special Reference to the value of Electrocardiography in the Diagnosis. *The Medical Clinics of North America*, Vol. XI, No. 2, Sept., 1927.
7. SMITH, FRED M.: The Coronary Circulation. *Archives of Internal Medicine*, Vol. 40, No. 3.

BLISTER FLUID FOR MORPHINE ADDICTION

(W. D. Reddish, Lexington, in Ky. Med. Jour., Sept.)

Sample Case:

J. H., age 42. Has been taking morphine for 23 years. He said his daily requirement was from 8 to 10 grains intravenously.

August 1st: 8 a. m., morphine grs. $\frac{1}{2}$, 10 a. m. 4 c.c. blister fluid injected, 7 p. m. 8 c.c. blister fluid injected. Patient was a little nervous and was given a luminal tablet.

August 2nd: 9 a. m., patient states that he was awakened by the escaping blister fluid. A small bleb yielded 3 c.c. which was injected. Morphine gr. $\frac{1}{4}$ was given and another blister applied. 8 p. m., 6 c.c. fluid injected.

August 4th: Condition good, slept well last night. He refused morphine when it was offered to him. His appetite returned as suddenly as the craving left. The luminal was discontinued on the 5th day. As long as he remained under observation he slept well, ate ravenously and since the 3rd day of treatment, did not ask for morphine.

REMOVAL OF SUPERFLUOUS HAIR

(Urologic & Cutaneous Review, Sept., 1931)

G. B. Dowling reminds us (*British Journal of Physical Medicine*, July, 1931) that the masculine distribution of hair in females is undoubtedly caused by functional disturbances of the endocrine glands. As to treatment there are two methods in common use—electrolysis and diathermy. Of the two, the latter is the more rapid. Both methods are followed by about 10 to 15% recurrence after several months.

In electrolysis, the negative platinum electrode is passed into the mouth of the follicle and a current of 1 or 2 ma. is applied. The passage of the needle to the bottom of the follicle is facilitated by the development of a waxy smoothness of the follicular wall during the passage of the current. The moment of destruction is marked by a bubble of gas at the

mouth of the follicle; the hair can then be withdrawn without resistance.

In diathermy, a fine needle is used as an electrode and passed into the follicle. A current of about 50 ma. is passed for about 1 or 2 seconds. The hair is then withdrawn. If there is the slightest tug, the follicle should be treated again. As in electrolysis, there may be some resistance to the passage of the needle in the first place to the bottom of the follicle, due to a slight constriction at the neck of the follicle. This may be overcome by passing the current for a fraction of a second while the point of the needle is gripped in the neck. It is possible to remove from 60 to 100 hairs in $\frac{3}{4}$ of an hour by this treatment. The resultant scarring is slight, but the treatment should be spaced as much as possible to allow complete recovery to take place; intervals of a fortnight are most suitable.

RED SQUILL POWDERS AS RATICIDES

(Jour. Iowa State Med. Soc.)

A recent leaflet from the U. S. Department of Agriculture dealing with "Red Squill Powders in Rat Control" describes a new raticide prepared from a bulb grown in Europe and which, as a result of recent study, has been so standardized that its toxicant properties can be controlled and maintained in uniform strength.

This powder, although effective in destroying rats, is relatively harmless to human beings and domestic animals. Even when taken in comparatively large amounts, the only unfavorable signs noticed are of nausea and vomiting.

Those requiring additional information on this matter should ask for *Leaflet 65-L* from the U. S. Department of Agriculture or order the Technical Bulletin 134-T (price 10 cents), from the Superintendent of Documents, Government Printing Office, Washington, D. C.

It appears that obesity is due primarily to decreased physical effort and the prolonged excessive intake of starch. A disturbance in the sugar regulating mechanism due essentially to over-stimulation and "intoxication" is suggested as a contributing factor. (Nissler, Tai, and Gordon in *New York State Jour. of Med.*, July 15th.) It is suggested that disturbances of the endocrine glands are the results rather than the primary cause of over-nutrition. A regimen consisting of a reduction in the usual intake of carbohydrate at meal time and the administration of dextrose in divided doses between meals apparently favors the loss of weight and the cessation of abnormal desire for food.

During the past year I (Monash, S., in *New York State Jour. of Med.*, July 15th) have been combining the use of *viosterol* with the usual *antipsoriatic ointments* and have been much pleased with the results.

Mercurochrome in Sepsis

Report of Three Cases

T. C. REDFERN, M. D., Winston-Salem, N. C.

This communication is submitted because of a recent experience with three simultaneous cases of sepsis with recovery. No reference will be made to the vast amount of literature that has accumulated during the past few years on mercurochrome therapy, and in the case reports no detailed account will be given of the numerous blood counts and urinalyses that were done.

Like all other remedial agents mercurochrome has its violent partisans and its equally violent antagonists. In the beginning it was extensively used in a wide variety of conditions, and probably used where no possible benefit could be expected; after a few years its use began to decline, due, no doubt, to unfavorable case reports and autopsy findings. It now appears that a more rational selection of cases will result in its more widespread use.

I am quite sure that the suggested dose of 23 c.c. of a 1 per cent solution per 100 lbs. of body weight is too much; in my hands at least, this amount has always resulted in chills and I am convinced that chills are not beneficial. It seems absurd, in the light of our present knowledge, to suppose that one large dose will sterilize the blood stream and keep it sterile; in spite of the widespread and erroneous notion that in sepsis the individual bacteria chase each other round and round the circulatory system. It has been conclusively proved that any organism passes a given point only once, and the reappearance of positive blood culture means that the focus of infection is still pouring bacteria into the blood stream. I prefer to believe that repeated 10-c.c. doses of 1 per cent solution in the adults of ordinary size will be productive of more good and less harm.

In reporting these cases I am somewhat influenced by what Beckman says in his "Treatment in General Practice," and the same experience is no doubt common to others. He says in effect that he knows of two men who have used mercurochrome widely and with decidedly good effect in sepsis, and who have never published their results or communicat-

ed them to anyone; and he also knows of one who, having used it in two cases with no effect, is spending the rest of his life in uncritical condemnation of it. The sponsors of mercurochrome are no doubt hardened by this time to such an attitude.

The First Case is that of a previously healthy young woman who suffered a trivial injury to her left thumb, and about a week later was admitted to the hospital with a left subpectoral abscess which was opened and drained. Instead of the usual subsidence of fever she had a chill on the 4th day and a temperature of 105° F.; the following day the blood culture was positive for *Streptococcus haemolyticus*. She was then given metaphen intravenously daily for four days; the blood culture being still positive and the temperature ranging from 104° to 99° daily, metaphen was discontinued. She had begun to look quite pale, the hemoglobin being 45. On the 12th day she was given 10 c.c. of 1 per cent. solution of mercurochrome and the next day a transfusion of 400 c.c. On the 14th and again on the 19th day she was given 10 c.c. of 1 per cent. mercurochrome solution, at this time the general appearance of the patient was much better, the blood cultures were negative and the original abscess almost healed. On the 25th day a smaller abscess had developed in the bend of the left elbow; on the 33rd day another developed in the right sternoclavicular joint which was evacuated, and on the 35th day she was given another transfusion of 450 c.c. From this time on the temperature gradually declined to normal and she was discharged on the 65th day of her stay in the hospital, in excellent condition.

The Second Case is that of a young man who had suffered from otitis media for several years. He developed an acute mastoiditis which was operated on, and for several days he seemed to be improving satisfactorily. On the 8th day post-operative he had a chill with a rise in temperature to 104° F., the blood cultures were positive for a nonhemolytic streptococcus, on this and the succeeding day. On the 11th and 12th day he was given 15 c.c. of 1 per cent. solution of mercurochrome with no reaction after either injection, his temperature promptly dropped to normal, the blood stream was sterile, and he was discharged well.

The Third Case occurred in a girl 10 years of age, who first began to complain of pain in her right leg below the knee; the next day she felt too sick to go to school and had a chill in the afternoon with a

marked increase of pain in the leg. There was no history of any previous illness or of any injury to the leg. On admission to the hospital four days after the onset of the pain she appeared acutely ill, with a temperature of 105°, pulse 160 and repeated leucocyte counts of around 12,000. A blood culture was taken and the right tibia opened. There was a moderate amount of rather thick, yellow pus. Cultures from the leg and from the blood stream were positive for staphylococci. The day after operation she was given 5 c.c. of a 1-1,000 solution of metaphen, and this repeated on the third day and again on the fifth. During this time the temperature did not lessen, and the patient's condition continued to be very unsatisfactory. On the 7th day after operation she was comatose and the pulse barely perceptible, temperature 104°. She was given 5 c.c. of a 1 per cent. solution of mercurochrome, this repeated on the 9th day. On the 10th day the temperature was normal and the pulse 110. The patient seemed much better and asked for food, she continued to improve and was discharged on the 30th day.

I realize that the foregoing does not give an adequate account of the influence of the mercurochrome injections, and there might be some question as to whether the results should be credited to metaphen, mercurochrome, transfusion, or a combination of the three. However, there is no doubt but that following each injection of mercurochrome there was a decided improvement in the general appearance, and this improvement was not apparent after metaphen. The first case is the only one in which transfusions were given; they were not given in the other two because there seemed to be no particular reason for doing so. So far as harmful effects are concerned, there were no chills in any of the three cases following the mercurochrome injections, and daily urinalyses failed to show any kidney damage that could be attributed to them.

BELT TO RUB IN MERCURIAL OINTMENT

(Venereal Dis. Information, U. S. P. H. S.)

A rubber-faced belt was devised of the following dimensions: Length of rubber face, 15 inches, and width, 5½ inches. At each end of the rubber material a 3 by 2 inch elastic material was attached to make the belt fit snugly against the skin and to admit freedom of movement. Ties are attached to the elastic and encircle the waist and are fastened with a safety pin or an ordinary bowknot.

The patient is then instructed to apply his daily ration of mercury over the skin on the abdomen, selecting a new area each day. The belt is worn during the day and removed at night. After the

mercury is applied to the skin and the belt put in position, every movement of the patient causes sufficient friction to promote absorption of the drug and in from one to two hours the daily dose of mercury is absorbed. Some 4,000 of these belts are now in use and have proven satisfactory.

The life of the belt is between three and four months. It is believed that the use of this belt in a large number of cases will solve many of the clinician's problems and assure the patient a less painful and objectionable means of mercury therapy.

POSTURE STUDIES

(U. S. Public Health Service)

The Public Health Service has recently issued a further bulletin on the subject of physical development and posture (*Public Health Bulletin No. 179*).

The specific conclusions of the investigation are technical in nature and cannot be given in a brief summary. They are of a decidedly negative character and do not lend support to certain more or less established ideas. At every point in the investigation an unmistakable impression was obtained of the great variability in postural relations from person to person and the impracticability of establishing specific standards of posture.

EGG-YOLK-AGAR MEDIUM VS. GUINEA-PIG INOCULATION

(C. I. Woolsey, Chicago, in *Jour. Inf. Dis.*, Aug.)

One egg yolk added to 200 c.c. of 1.5% agar at 60 C., mixed well, makes a valuable medium. The results of cultures on this medium (Herrold) and of inoculations into guinea-pigs agreed in 93 per cent. of 130 cases; in 5 of the 9 cases in which the results disagree, the Herrold cultures were found the more reliable. Thirty-six strains of tubercle bacilli were recovered on the Herrold medium in an average of 12.2 days.

Since essential hypertension seems to be hereditary, or at least familial, its early diagnosis is chiefly in the hands of the general practitioner because of his more intimate relations to the family.—D. AYMAN, Boston, in *New Eng. Jl. Med.*, Aug. 27.

It has been my custom (Miles, W. G., Chattanooga, in *Jour. Fla. Med. Asso.*, July) in the treatment of chronic leg ulcers to first treat the cause, if one is present. Then cleanse the ulcer and surrounding tissue with tincture of green soap, dry and apply insulin freely, with applicator, to the surface of the ulcer. Then cover surface of ulcer with a 10 per cent ointment of insulin, using lanolin or white petroleum as a base. Apply a support and keep the patient in bed with leg elevated. I have found that best results are obtained by going through this routine daily.

Notes On Diagnosis and Treatment

A Column Conducted By
THE STAFF OF THE PARK VIEW HOSPITAL
Rocky Mount, N. C.

For this issue, NEWSON P. BATTLE, M.D.

Morphine in large doses, nothing by mouth, and remembering the value of correct posture in bed or automobile, will help reduce the mortality of shot-gun wounds of the abdomen. Persons suffering from shot-gun wounds of the lower abdomen and pelvis should be placed in the low-prop position, while those shot in the upper abdomen should be kept flat.

Shot-gun cases presenting numerous perforations of the abdominal wall and no symptoms of hemorrhage or injury to the urinary bladder, are probably given their best chance by expectant treatment at home; *i.e.*, morphine, nothing by mouth, hypodermoclysis in large amounts, and correct posture. In some cases treated in this manner recovery will ensue, whereas the handling and general shaking-up connected with an automobile trip to a hospital would have finished the patient.

In traumatic cases requiring immediate surgical treatment a great service is rendered when the hospital is notified that the patient is on his way, so that the operating room can be ready for him when he arrives.

Lives may also be saved by the physician called to the scene of the accident taking long enough to examine the patient, pulling fractures in line, giving morphine, etc., before excited friends put him into an automobile and rush, at break-neck speed, to a hospital. The hero at the wheel enjoys the trip much more than does the patient.

[At White Lake, N. C., on July 23rd a 4-year-old child was injured by a car while rushing a young man to a physician at Elizabethtown to be treated for a broken arm.—*Editor.*]

The significance of referred pain is not to be overlooked in the traumatic cases. A ruptured spleen may give referred pain to tip of left shoulder, while pain in the right shoulder may be caused by a rupture of the liver. An injured kidney may cause pain in the genitalia and down the inner side of the thigh.

Absence of liver dulness is sometimes seen in rupture of the stomach and duodenum.

In applying weights for traction in cases of

fracture of the femur, 10 pounds on the first day, are better than 20 pounds on the second.

Pressure along the shaft of a bone will generally get a child to a surgeon for drainage before "rheumatism" has caused irreparable damage.

Parotiditis sometimes develops in surgical cases, chiefly those who are being given nothing by mouth, in spite of the most careful oral hygiene. Chewing-gum or a few drops of lemon juice three or four times a day will keep the parotids active and the ducts open, preventing thus stagnation and ascending infection.

Pain from heavy percussion over the kidney region, during the course of an examination for appendicitis should make one suspicious of ureteral blockage.

Pain in the right lower quadrant in the male is suggestive of appendicitis, but may be caused by an epididymitis.

Calcium chloride, 10 c.c. of 5 per cent. solution, given intravenously, is useful in the treatment of urticaria that sometimes follows tetanus and anerobic antitoxins.

Magnesium sulphate, 2 c.c. of 50 per cent. solution, given intravenously, is useful in the treatment for a lumbar puncture headache. This may be repeated in two hours. It is seldom necessary to use more than two or three doses.

FREE BOOKLET ON ALLERGY

A number of obscure ailments are being traced to allergic conditions, food allergy in particular. Because milk is so widely used as a food, milk allergy was deemed of sufficient importance to S. M. A. Corporation for them to prepare a 22-page pamphlet on the subject.

The pamphlet takes up such subjects as: what milk allergy is, allergic manifestations, incidence and diagnosis of food allergy, value and technique of skin tests, elimination diets, feeding suggestions, SMACO Non-Allergic Milks, etc., and makes clear that not all allergies are caused by milk and that not all food allergies are milk allergies.

Quotations from authorities on the subject of allergy make up most of the material. At the back is a list of references to 42 books and papers.

This booklet is offered free of charge to physicians who will write the S. M. A. Corporation at Cleveland, Ohio, asking for it. SMA and SMACO products are not advertised to the public and they carry on the label the statement that they are to be used only under the direction of a licensed physician.

Southern Medicine and Surgery

OFFICIAL ORGAN OF

TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA

MEDICAL SOCIETY OF THE STATE OF
NORTH CAROLINA

JAMES M. NORTINGTON, M.D., *Editor*

Department Editors

HUMAN BEHAVIOR

JAMES K. HALL, M.D. Richmond, Va.

PEDIATRICS

CHILDREN'S CLINIC GROUP Black Mountain, N. C.

E. K. McLEAN, M.D. Charlotte, N. C.

DENTISTRY

W. M. ROBEY, D.D.S. Charlotte, N. C.

EYE, EAR, NOSE AND THROAT

EYE, EAR AND THROAT HOSPITAL GROUP
..... Charlotte, N. C.

LABORATORIES

THE BARRET LABORATORIES Charlotte, N. C.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D. Gastonia, N. C.

UROLOGY

HAMILTON W. MCKAY, M.D. Charlotte, N. C.

ROBERT W. MCKAY, M.D. Charlotte, N. C.

RADIOLOGY

DEWITT KLUTTZ, M.D. Washington, N. C.

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D. Charlotte, N. C.

INTERNAL MEDICINE

PAUL H. RINGER, M.D. Asheville, N. C.

SURGERY

GEO. H. BUNCH, M.D. Columbia, S. C.

THERAPEUTICS

FREDERICK R. TAYLOR, M.D. High Point, N. C.

OBSTETRICS

HENRY J. LANGSTON, M.D. Danville, Va.

GYNECOLOGY

CHAS. R. ROBINS, M.D. Richmond, Va.

NEUROLOGY

OLIN B. CHAMBERLAIN, M.D. Charleston, S. C.

HISTORIC MEDICINE

VARIOUS AUTHORS

PUBLIC HEALTH

GEO. M. COOPER, M.D. Raleigh, N. C.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D. Winston-Salem, N. C.

HOSPITALS

MERCER C. PARROTT, M.D. Kinston, N. C.

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

PRIVATE HOSPITALS DESERVE GRATITUDE, ENCOURAGEMENT AND SUPPORT

Gratitude is a lively appreciation of favors to come.
—Lord Roseberry.

No one will ever be able to compute the value to the people of North Carolina and adjoining States of the services of those doctors who have, over near a half century, spent their substance and pledged their credit that proper facilities might be provided for the care of the sick; that there might be erected and equipped houses, wherein sick women, children and men could be made well more certainly, more quickly, more happily—and even more cheaply, for the saving in expenses of obtaining treatment at distant shrines would make a staggering total.

Reflections along this line were brought about by Dr. Parrott's contribution to the Department of Hospitals for this issue.

We had supposed that every member of the Industrial Commission was placed in office to represent Justice and Right, not to represent Employers or Employees or Insurance Companies. Before we can get a glint of eye-moisture about insurance companies losing money, we'll have to see from a sworn statement that the salaries paid to their officers are modest. It used to be said, in conveying the idea of the wildest extravagance, "He spent his money like a drunken sailor"; but that no longer suffices, for a drunken sailor is pure Scotch as compared with the boards that set the salaries of officers of insurance companies.

So far as appears, nothing was said by the Commission as to value of service or cost of rendering it, both always hitherto regarded as essential factors in arriving at price. One can but wonder what would happen if the Commission were to fix a price so low that the owners of the hospitals of the State—the persons who have to pay for the food the patients eat and the other daily operating expenses of the hospitals—would be obliged to decline to accept any such patients!

Certainly no one desires that any such *impasse* be arrived at. The Editor of the Department of Hospitals proposes the first step toward the proper solution, that a competent doctor be made a member of the Commission; in addition, it will be necessary that every member do his best to represent, not

any special group, but Justice and Right.

Aside from the dealings with them of the Industrial Commission, private hospitals are being imposed upon, in some instances to their ruin, much as are the railroads. Each of these necessities was provided to meet a great need; each met this need and proved a boon to our people; now many of each are being subjected to competition which, while ruinous to hospital or railroad, serves the needs of the people only at costs, immediate and remote, which no people can afford to pay.

Hotels charge more than hospitals for room and board with meals served in room, to say nothing of routine nursing care; and, although *getting pay from all those for whom they provide entertainment*, many hotels are failing. Think of that and then, instead of the charges appearing high, it will rather seem astounding that hospitals can be run on the charges they make, since they have to provide so many expensive items which hotels do not provide, and have so large a proportion of non-paying guests.

Our private hospitals deserve to be supported out of gratitude to them for coming to our rescue when we had no other helper; they should be supported for the reason that there may be had the personal interest of competent staffs. Sound morals, sound reasoning on the basis of enlightened self-interest, and sound politics unite in demanding that the private hospital be held in gratitude by our people, and by all encouraged and supported.

THE DEADLIEST DRUG

Likely you thought of prussic acid or ouabain when your eye lighted on the title; or maybe of some drug more commonly used for suicide; probably of opium or alcohol as a means of slow suicide! Neither of these is deadly as compared with a certain household remedy, which is commonly looked upon as being as innocent as the new-born babe, down whose throat this will be the first drug to pass.

Dr. Murat Willis of Richmond spent a great part of his latter years in insistently and repeatedly warning that the death rate from appendicitis was steadily rising. The warning and the means of heeding are repeat-

ed and emphasized in the July issue of the *Johnston-Willis Hospital Bulletin*. Of 5,121 patients reported by 27 hospitals as having appendicitis, 131 died of general peritonitis—and 124 of these had been given a laxative in the attack which resulted in death. The *Bulletin* makes wise recommendation:

"A plan of education about appendicitis for the laity by means of stickers, placards, popular articles and radio talks has been carried out in Philadelphia and should be followed up in every community. The family physician is in a particularly suitable position to assist in the furtherance of this education."

In the *Pennsylvania Medical Journal* for March, Dr. Hubert Royster of Raleigh, also, tells us plainly what way lies the remedy:

"Instruction of the laity and renewed concern of the physician, chiefly upon the dangers of procrastination and purgatives, are imperatively demanded. Discussion of mortality statistics is of slight avail unless each medical man takes to heart his individual responsibility. Whenever gangrene or rupture of the appendix occurs, some one has blundered. The tragedy of appendicitis is that even one human being should die of the disease."

Of course many are murdered with other purgatives; but castor oil has a fatal fascination for those who will not learn that it is criminal to give a purgative to a person who has a pain in his belly, and who keep right on, in their attempts to "blow them out," "blowing" men, women and children into premature graves.

Several months ago we saw a fine lad very nearly lose his life because a nurse gave him a dose of salts when he complained of pain in his belly.

A few days ago we had a request to aid a movement to sell stamps at 10 cents each to supply funds for combatting cancer. While we have the fullest sympathy with the aims of those in charge of that movement, we are not disposed to join in; for we have never seen any evidence that anybody knows how to reduce the incidence, the morbidity, or the mortality of cancer. How different is the case of appendicitis! Every doctor knows that acute abdominal pain should make one think immediately of appendicitis, that an acutely inflamed appendix should be removed in the first hours of the attack, and that purgation can do no good in such cases, and very

likely will kill the patient. But many are in the state of the farmer, who, when besought to subscribe to a farm journal and learn more about farming, frankly replied, "I'm not using near all I know about farming already."

Let's tell our folks from Manteo to Murphy not to take purgatives when they have belly pains, that the risk from appendicitis operated on in the first few hours is almost nothing; and that, under such circumstances, if a doctor orders a purgative, or does not suggest the likelihood of having an operation done promptly, the thing to do is to refuse to take the purgative and get another doctor.

Paregoric no longer slays its thousands; but castor oil still plays the role of David, slaying its 10-thousands.

MAKE FRIENDS WITH THE WEATHER

Religion is Friendship with the Universe.
—Carlson.

Among the friends of our boyhood was a certain wise old gentleman, some years retired from the active pursuits of distilling brandy, racing horses and fighting cocks, who was spending the evening of his life gracefully, drinking his juleps, smoking his pipes, reading Schopenhauer and reminiscing on how good it was to have lived and to be still alive, and that it had been permitted him to make a small contribution to the happiness of mankind.

It was an unusual sort of friendship, this between a very little boy and a very big, old man; but it was very real. Like Carlyle's Professor Teufelsdröckh, he was a teacher of things in general, although it is doubtful if he ever thought of himself as a teacher. He had lived long and much; he had ever looked on the world with inquiring yet kindly eyes; he had read discriminatingly; in his reflections he had brought to bear on what he had seen, read and thought all the powers of a magnificent mind.

It was delightful to listen to the droning melody of his tones as his words followed one another, always slowly, with, now and then, the accompaniment of a gentle gesture.

One day he made the astonishing statement, "Jimmie, I know exactly what kind of weather we're going to have next week." Our home instruction had been that only the sim-

ple believe everything they are told; but Mr. Hubbard we believed, whatever the strain. He did not delay long enough to make a painful situation, but soon went on with, "It's going to be the kind that suits me."

Hundreds and hundreds of times have these words come back, when persons, of every grade, age, calling and walk in life, petulantly complain of the weather—a habit which is silly on its face, and which only adds to everybody's discomfort. Indeed, while laying no claim to authority in that line, we dare say it is irreligious.

The words of our old friend are passed on, with the assurance that their honest application will improve health, manners and morals, in each case.

How it would please him could he know we are urging, in his name, that all make friends with the weather!

PAY, OR NO-PAY, SHOULD MAKE A DIFFERENCE

Between the public health officials and the private health officials—doctors doing private practice—in North Carolina there exists an excellent feeling, this feeling having its basis in mutual respect, consideration and confidence. We believe it is possible to make it even better.

Too often do public health officials declare that the general practitioner is responsible for the success or failure of this, that, or the other activity promoted by the different Boards of Health. In that way they stand from under in case the results are not so good; but do you ever see the general practitioners given credit for good results along this line? Or is it like this: During Dr. ———'s year's administration as Health Officer the typhoid death rate was reduced so much, so many lives saved by the free distribution of antitoxins, and antirabic treatments, and so on? Usually, somewhere is a comment to the effect that this is a record highly creditable to the official.

Before us is an address recently delivered by a Professor of Bacteriology and Hygiene. It is so much like so many others that its authorship need not be stated.

In this address doctors in private practice are alternately flattered by being told that

they have never been appealed to in vain for the service of humanity, and threatened with State Medicine for their indifference to sickness prevention.

The professor says the family physician is the foundation of medical service; that the family looks to him for protection from disease, physical and mental, and that he is responsible for these; that the future of the periodic health examination rests with the general practitioner, and that no health department can function without the intelligent support of the medical profession. Some might be inclined to ask, Why have public health officials if private health officials must bear all this responsibility?

As to the family doctor being the foundation, the essayist is right. Is it not true that a foundation's place is at the bottom, that it carries all the load and that, of all parts of a structure, it is paid least attention?

To say that the responsibility of protecting the people from physical and mental disease, by means of periodic health examinations and otherwise, rests with the family doctors is equivalent to saying that family doctors are **blameworthy** for all the physical or mental disease which develops—even as an inevitable consequence of the wearing-out processes of life!

We have no idea that any public health official in N. C. assumes that family doctors have the ability to do away with disease utterly. Family doctors do not have absolute control of their patients, and even salaried doctors who have the aid of the military law in the control of their patients have not been able to keep the ranks free from disease, either physical or mental.

The line between public health work and private health work can not be drawn in any hard-and-fast way; nor is this necessary, for the doctors of the State, public and private, recognize that the responsibilities and the labors must be shared in by all.

The private doctor helps the public health official in every way. In what may does the public health doctor help the private doctor? There are several ways in which this service can be returned. Using the influence of the different health boards to convince the public that competent medical service can be obtained at home, and eliminating traveling

quacks who come in and take away money which would otherwise be paid home doctors, are two ways which come to mind right now.

There is the definite opinion here, too, that our public health officials should never forget that the time spent by private doctors in public health work is not paid for, while for the same time put in by the public health official the latter receives his monthly check.

And we wish they would pass this suggestion on to professors, doctors drawing salaries from the U. S., and all others speaking or writing on the subject who are not dependent on patients for a livelihood.

THE FUNCTIONS AND FUNCTIONING OF THE GENERAL MEDICAL SOCIETY

A recent number of *The Lancet* (London) carries three letters on the successful conduct of medical societies, and the editor discusses the subject in a leading article.

"A," a research worker, says that the general society serves most as a forum for diffusion of knowledge of recent advances and stimuli to private reading, for promotion of good fellowship and providing an efficient medium for concerted action of medical men. The medical society renders one of its greatest services in providing clinical cases, "carefully observed, annotated and accurately presented."

"B," a medical consultant, is of the opinion that competent men should be invited to discuss certain subjects and that much is lost by failure of speakers to "speak up." He is strong in the opinion that speakers should be admonished to talk loud and clear enough to be heard on the back row and to make their illustrations readable to those in the rear.

"C," a general practitioner, regards the local medical society's function to be the improvement of the clinical abilities of its members, the promotion of the independence of practitioners and of medical journalism, and the organization and expression of group opinion on all matters affecting medical practice locally.

The opinions of these three doctors, representing as they do different phases of the practice of medicine, are passed on to our readers in full confidence that they will be taken to heart to advantage.

EROSIONS OF THE NECK OF THE UTERUS AS A SOURCE OF PUERPERAL INFECTIONS

It is frequently noted that infections may and do follow childbirth conducted in a scrupulously careful manner. Some contend that infection in even these cases is introduced by the medical attendant; others that the source of infection is within the patient. Generally those who advance the latter opinion are vague as to the site from which the infection comes.

An article¹ which definitely locates the focus of infection is before us. The authors examined 1,000 post-puerperal women and found that 90 per cent had some cervical laceration and that 70 per cent had *erosions*. To their surprise they occasionally found erosions in the virgin and 5 to 10 per cent of primiparae showed this lesion.

These authors urge that every pregnant woman be subjected to a speculum examination early in her pregnancy, and that every erosion found be cauterized. The danger of abortion may be disregarded. In a series of 2,000 such cases abortion followed cauterization only once. The instrument used is an oliveline bulb heated to dull redness.

No case of sepsis has occurred when the cervix was healed. A promising, ready means is here described of saving lives which are being needlessly sacrificed. It is suggested that every reader who does an obstetric practice put this information into practice, and that those who do not practice obstetrics tell those who do.

Write the authors for a reprint.

1. Prophylaxis of Puerperal Sepsis, by H. A. Miller, M.D., D. B. Martinez, M.D., and M. E. Hodgden, M.D., Pittsburgh, in *The Pennsylvania Medical Journal*, July 1931.

"WHAT CAN ONE DOCTOR DO?"

Frequently does a doctor respond with this question, when he is asked to use his influence for the correction of some abuse. Far more frequently, it can not be doubted, does a doctor ask himself this question, and, deciding that the answer is "Nothing," refrain from making the attempt.

Recently there came to this desk a weekly, the publication of a popular lay organization of the State. It was noted that it carried two outlandish medical advertisements. We

wrote a doctor who is a member of that organization. A letter from him to the general manager corrected the abuse.

All over the State individual doctors can accomplish much by making it clear to newspaper publishers that, when they carry fraudulent medical advertising, they are going into partnership with the most calloused of criminals, that they are hiring themselves out to persuade the ignorant—many who have been to college are still woefully ignorant—to pay money which they and their families desperately need for food, clothing and fuel, for stuff that it is utterly worthless—and often injurious.

The story of "Sally Lou" in the *North Carolina Health Bulletin* for August tells such a story in all its pathos. Read it; then read carefully the medical advertisements in your newspapers and magazines—daily, weekly and monthly, general and professional, lay and religious; mark those which are written to misrepresent and delude; talk with, or write to, the publishers, pointing out the inevitable consequences. Bring such cases as it seems best to handle that way before your County Medical Societies.

This journal would be glad to hear of activities along this line, however they result.

HOME vs. INSTITUTIONAL TREATMENT OF PULMONARY TUBERCULOSIS

In the issue for August 8th of the *Journal of the A. M. A.* Dr. Paul H. Ringer¹ says the patient with pulmonary tuberculosis is best cared for in an institution conducted for the treatment of this disease, and, in the majority of instances, at a considerable distance from his home; and he tells us why he is of these opinions.

Sanatorium routine is conducive to bodily and mental rest, home routine is not; infection of others is more likely in the home; untoward developments can be dealt with in a sanatorium with less risk to the patient; the atmosphere of the sanatorium tends more to inspire the will to get well and the courage to follow through.

The essayist does not question that some can and do overcome the disease at home.

1. Editor Department of Internal medicine of this Journal, member State Board of Medical Examiners of N. C.

The person who becomes acutely ill of tuberculosis at home should, he says, remain there till the acute symptoms have subsided. Of course he recognizes the fact that there is no rest anywhere for any one, sick or well, on whom heavy debts are pressing.

We are proud to see that, on the sheet of abstracts sent out each week by the *Journal of the A. M. A.* to medical journals and other publications, our Dr. Ringer's article is abstracted at greatest length.

POT-GUTTEDNESS: WANTED—EXPLANATION
OF, AND POLITER NAME FOR

When a man's girth exceeds his chest circumference, his doctor is even more concerned than is his tailor; for the doctor knows that a convex line from ensiform to pubes is the line of least resistance. Yet, disconcerting as is the development of this condition, it seems that little is known of cause or management.

It will be recognized that we are not referring to the transitory pot-belly of infancy and childhood, or even the pendulous abdomen; the condition we call to mind—we actively dislike the term, but we know of no other which will carry the idea—is pot-guttedness, and we call it to mind to ask that a number of our readers write on fundamental etiology and significance.

Why is it that one man's fat is evenly distributed, while another's all goes to his omentum and abdominal wall? Why is it that the latter will not live as long as the former? Rearing back a bit to balance his belly could be expected to give the lungs freer movement, and the consequent lordliness on parade in street, park, or church, to offset the chagrin of locker-room and beach.

We have conducted a fairly extensive search; and we have found much about why the abdominal viscera sag, but nothing to explain the eccentric fat deposition or why it means lessened expectation of life.

We ask you all to observe, ponder, note and write.

A LETTER WHICH SHOULD NOT HAVE BEEN
REQUIRED

Sept. 8, 1931.

Dear Dr.....:

We do not find your manuscript suitable for our uses. We always much prefer articles

based on the work of the author himself; also, while we do not mind editing articles on which the author has expended his best efforts, we do not care to do the work that the author should do himself. As this is a light manuscript we are violating our rule and returning it to you although stamps were not enclosed.

Very truly yours,

SOUTHERN MEDICINE & SURGERY.

By: JAS. M. NORTHINGTON, *Edr.*

ABOUT MEDICAL GRADUATES OF 1826
(From *Medical Recorder*, Philadelphia, 1826)

The Medical Institution of Harvard University graduated 24 Doctors of Medicine, of which number 19 were Masters of Arts. One of these, for his Thesis, chose the subject "Hearing in Fishes."

Richard Sexton, of Delaware, chose as the subject of his Thesis at the University of Pennsylvania, "Mania a Potu treated by Spider's Web." Hopson M. Hubbard of Georgia—these also at Penn., "Music as Applicable to Diseases"; John A. Cunningham, of Virginia, "Clothing"; Geo. Aug. Sykes, of Virginia, "The Effects of Drinking Cold Water"; Albert Ritchie, of Maryland, "Relative Virtues of Concentrated and Compound Medicines"; David J. Carroll, of New York, was the second to discuss the "Morbid Effects of Drinking Cold Water".

At the University of Maryland, Wm. T. Stephens, of Maryland, won the medal for his discussion of "De Effectibus Ebrietatis."

Over the mountains at Transylvania University, Azra Offutt, of Kentucky, spoke his mind on the "Trepine in Injuries of the Head," while at the Medical College of Ohio Aaron T. Hendricks held guilty "The Stomach as the Primary Seat of Most Diseases," N. P. S. Prentice wrote on "Diseases of the Antrum Maxillare," and Hiram Todd essayed to establish the "Identity of the Gonorrheal and Syphilitic Poisons."

Lady Osler (widow of Sir William), *nee* Grace Revere, had as a paternal great-grandfather, Paul Revere, of Revolutionary fame, and as her first husband Dr. Samuel Gross of Philadelphia.—*The Lancet* (London).

MME. MARIE CURIE was the central figure at the radiological congress July 29th, Paris, when a delegation from the American

College of Radiology bestowed that institution's gold medal on her at a luncheon.

WE'RE STEADILY GOING CRAZY

Commitments to the four hospitals which the State of Virginia maintains for the insane for the first four months this year totals 723 persons, or 75 more than for the same period in 1930. Steady gains were shown in each of the institutions throughout the past five years.

A SUGGESTION

Not a day passes that my mail does not bring me letters from far and near asking me for information or advice about this or that, or soliciting some sort of favor; most of them from utter strangers. And only once in a fortnight does not exhibit the common courtesy of inclosing a postage stamp for reply. Now a postage stamp does not begin to cover the cost of writing a letter, but it does at least indicate that the writer has some consciousness of the trouble and expense he provides for the man from whom he expects a reply.—*Elizabeth City Independent*.

Roaches may be eradicated from any house by sprinkling sodium fluoride so as to whiten the runways of the roaches. The material should be left where the roaches can run over it for two nights and the intervening day. The roaches get this material upon their feet and becoming annoyed by it, clean their feet through the mouth and after rolling the particles in a ball, swallow it. Sodium fluoride may be purchased in pound packages from a wholesale druggist at about 35 cents a pound. It is good practice to make a second application of this powder about 10 days later in order to kill such young roaches as have meantime hatched from the egg stage. Sodium fluoride is a mild poison. In scattering it in runways of these insects, care should be taken so that none is placed upon any food.

—*N. C. State Entomologist*.

An unpleasant occurrence took place in 1818 between Dr. Benj. W. Dudley and Dr. Wm. H. Richardson [both teachers in Transylvania Medical School, Lexington, Ky.] in which Dudley shot Richardson, the latter was attended by Dudley and recovered, both buried their grievance and they remained friends the rest of their lives.—*Ky. Med. Jour.*, Sept., '31.

COMPENSATION

Leora Perry, M.D., Charlotte, N. C.

He turned his weary eyes at last to bills,
For bare necessities he owed:
"There's much that's due to me for health," he said,
Perhaps Mrs. Uppercutt will lift the load.

"The price I charged for saving life was small.
Can you not pay me that or even part?"
"Your charge was small enough, your work
So good, I thank you from my heart."

Oh, well, I'm sure Mrs. White is gratified,
The work to bring a normal child was hard;
"Will you not send a cheque to help me out?"
"Oh, Doctor, here's a bouquet from our yard."

Here's Mrs. Ruskin forced by poverty
To carry on with crippled heart; no pay,
But worthy of my charity and care,
I'll stop and give her what advice I may.

"Oh, Sir, the drops you gave me didn't help,
I didn't go to bed; my heart is torn
To tell you this, not feeling much improved
I called another doctor in this morn."

Enrico Benassi (*Archivio Italiano di Urologica*, July, 1931) has studied the toxic effects of this drug [uroselectan] now so widely used in visualizing kidney pathology, in animals. As a result of his researches, he has found that this drug is capable of inducing degenerative lesions of an albuminoid type in the heart and kidney. This is of a light and transitory type with no permanent damage. No such toxic effects have as yet been observed in human beings.—*Urologic & Cutaneous Review*, Sept., '31.

HERNIA RECURRENCE

(R. B. Cattell & C. Anderson, Boston, in *New Eng. J. Med.*, Aug. 27)

End results of 150 patients at the Lahey Clinic operated upon for inguinal hernia: 194 operations and 13 recurrences (6.7%). 44 bilateral operations were done with 8 recurrences (18.1%). 34 repairs reinforced by fascia lata showed 4 recurrences (11.7%).

We believe that the bilateral operation should be discontinued if the percentage of recurrences is to be reduced.

We believe that the operative treatment of inguinal hernia should include catgut repair, reinforced by strips taken from the fascia lata. We recommend closure of the defect in the fascia lata when possible.

Prolonged administration of sodium bicarbonate has caused alkalosis with severe renal damage and uremia.

DEPARTMENTS

THERAPEUTICS

For this issue, HOUSTON B. HIATT, M.D.
High Point, N. C.

SOMETHING NEW IN TREATMENT OF PEPTIC ULCER

Only the firm belief that here is something new and seemingly worth while prompts this review.

Probably the greatest advance in the peptic ulcer problem in recent years was the work of Rosenow demonstrating that peptic ulcer could be induced by certain groups of streptococci. With strains of streptococci obtained from human ulcers he was able to produce typical peptic ulcers in animals. With this work as a starting point, and the work of Holler, Pribram, Mueller and Peterson on the administration of foreign proteins as additional aid, Pitkin has worked out a solution for intravenous (or, where this is impossible, intramuscular) administration, that in his hands (127 cases) and the hands of a group of coworkers (183 cases) has given wonderful, not to say startling, results.

Dr. Pitkin made a preliminary report of his work in the June, 1931, issue of *The American Journal of Surgery* and most of what follows here is taken from his article. While Dr. Pitkin was kind enough to have the manufacturers of this solution supply the writer with a very liberal quantity, yet it is felt that the experience of the writer is too limited to attempt to draw definite conclusions from it. It is very gratifying to state that the cases treated by the writer show some apparent cures and the ones under treatment at present are pain-free and symptom-free; there being no failures in his small series.

Referring to the work of Holler and others Pitkin says:

"these men have been working with various proteins to control gastric functions and check the hypermotility of the stomach. They were able to stimulate the vegetative nerves and produce hypoperistalsis, lessen the amount of free hydrochloric acid, induce a hyperemia and increased vascularity in the ulcer area and augment the production of gastric enzymes and total lipoids."

With the solutions they were using, however, they were able to control these processes for only one to two hours. Pitkin reinforced the proteins with lipoids and lipins, finally adding emetine because of its synergistic action, and was able to control the gastric functions for a period of 96 to 120 hours. He found that his solution has a decided cumulative effect so that after five or six injections the hypoperistalsis, the muscular relaxation, gastric dilatation and increased vascularity were maintained for a period of more than 200 hours.

"There is also an increased flow of gastric juice of relatively low hydrochloric-acid percentage and adequate enzymes. The solution increases the resistance of the tissues around the ulcer and produces an antibacterial action on the causative microorganisms."

In his earlier work Dr. Pitkin used proteins obtained from vaccines made from direct cultures of streptococci and later from autogenous serums; these he found gave such severe anaphylactic reactions that they could be used only in such small doses that no therapeutic value resulted. He found with animal experimentation that the use of certain non-specific proteins would produce the same reaction on the vegetative nerves without the protein shock. These proteins, the ones he is now using, are derived from non-pathogenic schizomycetes. They are reinforced with lipoids and animal fats and emetine (one grain per 6-c.c. ampoule). The reaction following the administration is slight, if any, and consists only of a fulness of the head and dizziness with possibly some nausea. The nausea is more apt to appear if the dose is given after a meal. All of the writer's cases have received theirs when the stomach is empty and no reactions have been experienced. It appears better to give the full course of 10 injections; the first six at intervals of about four days and the remaining four at weekly intervals. Should it be necessary to give an additional series six to eight weeks should elapse between treatments. The solution should always be given intravenously unless this is absolutely impossible, when it may be given in-

tramuscularly, but never subcutaneously. A fine-gauge needle should be used and the solution administered very slowly. One of the most appealing features of this treatment is that it is ambulatory and consequently may be given in the office in a sitting position, and no subsequent rest period is necessary.

The dietary regimen with this treatment, while it does not assume the same importance as with the Sippy, the old Lenharz, and other treatments, is of importance and is rather liberal. It has been found in the cases treated by the writer that all have been able to continue their usual occupations and in only one instance has complaint been made of weakness or a lack of enough to eat. During the 1st three weeks the diet should consist of fresh or malted milk, buttermilk, cream, soft-boiled eggs or raw eggs, soups or broths, cereals (no oatmeal), custards, cornstarch, rice or bread puddings, baked or mashed potatoes, plain ice cream, ices and sponge cake. Coffee, tea and alcoholic beverages are absolutely prohibited and carbonated drinks are better left off. After the 1st three weeks there may be added baked, broiled or boiled fish or chicken, peas, squash, spinach and similar greens, mashed carrots, asparagus, fruit juices and stewed fruits (except berries). After the 5th week all dietary restrictions are removed except for alcoholics and preserved fish and meats.

Pitkin classifies his 127 cases with the results of the treatment as follows:

Men	111	Women	16
Acute ulcers of less than 6 months duration	9		
Ulcers of more than 6 months duration	118		
Gastric ulcers	6	Duodenal ulcers	121
Penetrating ulcers: Gastric	2	Duodenal	2
Ruptured ulcers: Gastric	0	Duodenal	5
Syphilitic ulcers: Gastric	0	Duodenal	1
Duodenal ulcer with chronic appendicitis			5
" " with gastroptosis			3
Hematemesis: Gastric	1	Duodenal	2
Hematemesis after gastroenterostomy (Duodenal)			1
Hemorrhage from bowels (Duodenal)			2
Cases previously treated by duodenal feeding			3
Pain persisting one or more years after repair for duodenal ulcer			3
Pain persisting after gastroenterostomy for ulcer			4
Appendectomies for relief of pain without results (other surgeons)			5
Gall-bladder operation for relief of pain without results (other surgeons)			3

Paraduodenal adhesions operation without results (other surgeons)	1
<i>Results of the intravenous treatment:</i>	
Pain relieved after 1st inj.	76
Pain relieved after 2nd inj.	16
Pain relieved after 3rd or 4th inj.	20
Pain relieved after 5th—or more—inj.	6
Acute pain relieved, sensation of heaviness remaining	5
No relief (including one syphilitic ulcer)	4

This review can be closed in no better way than to quote again Dr. Pitkin, a very eminent surgeon and responsible for the development of spinocain and the Pitkin technic of spinal anesthesia:

"When one has suffered for 12 years from duodenal ulcer, found no relief in medicine or diet, and at the same time fears the results of surgical intervention, he will endeavor to find a treatment devoid of risks that promises a fair degree of success so far as permanence of cure is concerned. * * * * * I have secured absolute personal relief from this treatment and its value has been demonstrated in over 300 cases; the results being corroborated by the disappearance of symptoms, by x-ray examinations and by gastric analyses."

RADIOLOGY

DEWITT KLUTTZ, M.D., *Editor*, Washington, N. C.

FAULTY DIAGNOSIS

The percentage of patients who are dissatisfied with radiographic examination of their gastrointestinal tract is too high. In some instances this is because too much is expected. Many of these people have presented a normal x-ray study and are disappointed because nothing was discovered which would account for their symptoms. Mostly they are true cases of nervous indigestion and have visited numerous doctors, chiropractors, osteopaths and faith healers. Properly described to them the normal finding can be made of value to them, and this should be done by both the roentgenologist and the referring physician. A thorough study of such individuals as a whole is necessary in order to give them any benefit. Frequently they have been told that they have a dropped stomach or general visceroptosis. Sometimes this has some bearing on the case and sometimes it does not. Some are relieved by proper treatment of such condition, but frequently the thought of their stomach lying low in the abdomen intensifies their symptoms.

The diagnosis of peptic ulcer is too frequently made, and these errors occur more frequently in the class of people mentioned above. The mistake usually arises from misinterpreting spasmodic contractions of the pylorus and duodenum. Often there is some cause for these spasms, and a thorough study of the patient may reveal the causative factor in some other part of the abdomen or elsewhere in the body. In our clinic there have been a number of such patients cured of these ulcer symptoms by tonsillectomy, removal of abscessed teeth, or by cleaning up a pyorrheal mouth. Similarly, we have seen the diagnosis of chronic appendicitis disproven by such procedures.

ORTHOPEDIC SURGERY

*For this issue, J. WARREN WHITE, M.D.
Greenville, S. C.*

GIVE THE HAND A CHANCE

The physician who limits his work to the practice of a small part of the entire field of medicine is able, in seeing a large number of particular conditions, to sound a warning to those who, in doing a more diversified type of work, do not have forced on their attention the real danger lurking in the wake of the more severe injuries of the upper extremity, especially if the patients are past the half-century mark.

The situation we have in mind is the distressing condition which, for want of anything better to describe it, may be called a congealed hand. As the name indicates, it is a hand that has become stiff from disuse, sometimes in a surprisingly short time. All textbooks mention the importance of early motion, but in our estimation too little emphasis is placed on the seriousness of a congealed hand, once acquired.

We have found that this condition is most prone to develop in timid individuals past middle life who are suffering from some painful condition of the upper extremity or shoulder, not necessarily in the hand or forearm, the symptoms of which are exaggerated by the slightest movement. In many such individuals a real phobia develops against motion, which is really more distressingly efficient than any splinting; absolute immobility of the part necessarily ensues.

In addition to the complete immobilization in these cases, we feel sure a second, but less important, factor, is a local inflammatory reaction involving the tendon sheaths and bursae, as well as the joints. We believe that the etiology of this is related to the etiology of the so-called atrophic, or infectious, arthritis and that the time-worn bugbear, focal infection, is only a contributing element. We are convinced that some fundamental metabolic condition is acting on a member whose vitality is reduced by the cessation of normal function and the consequent impaired circulation.

Especially in view of the obstinacy that this condition shows toward treatment, we feel that prophylaxis is of the greatest importance. So many times we treat the injury intensively and too late awaken to the fact that our stiff painful hand and wrist is of much more disability than a deformed upper extremity would have been. We are so frequently concerned over the holding of a somewhat precarious position in a difficult fracture that we are afraid of starting motion as early as is necessary to prevent congealing. We believe that it is positively dangerous to put up an injured upper extremity in such a way that the immediate motion of the fingers is restricted. We are convinced that with immediate action of the fingers this distressing complication can be largely avoided. The use of skin traction on the fingers is particularly decried, such as gluing a cotton glove on them or using adhesive. With the newer methods of treating bone injuries, even the difficult metacarpal fractures, may be properly held without completely preventing finger motion.

We have recently had occasion to look up some old fractures that for some reason or other never were properly reduced, and have been agreeably surprised at the relatively good function that has finally resulted. When we consider these and remember some of our stubborn congealed hands, resulting from long immobilization, we are urged to call attention to the necessity of sharing some of the energy, so frequently all directed to the injury, with the hand and wrist.

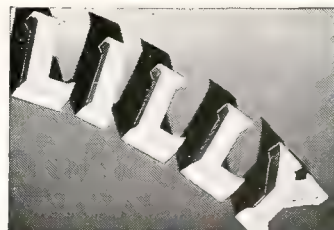
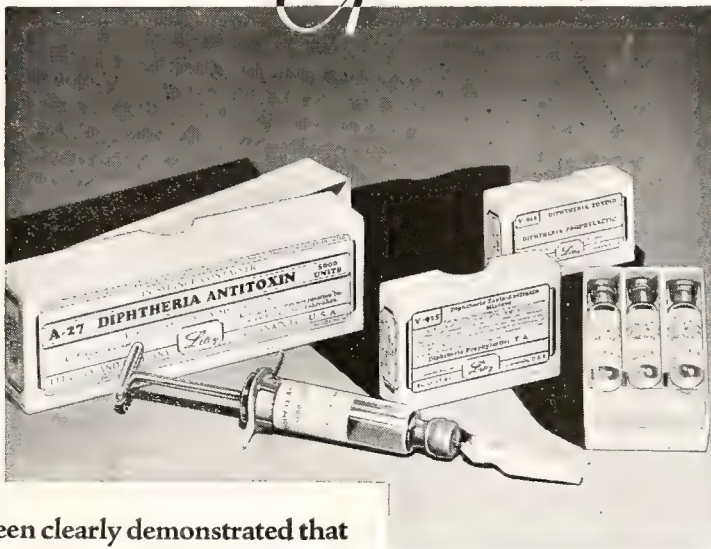
The importance in recognizing in the x-ray picture a satisfactory, rather than an anatomically correct, position of the bone fragments

Diphtheria Antitoxin

And Other Lilly Diphtheria Products

Parents should be encouraged to have their children actively immunized against diphtheria. It has been clearly demonstrated that immunization is effective.

((Diphtheria Toxin-Antitoxin Mixture, Lilly, 1/10 L+ dose diphtheria toxin, partially neutralized by sheep antitoxin, is available in single treatment packages of three 1 cc. vials and in packages of 10 vials for ten complete treatments. ((Diphtheria Toxoid, Lilly, for immunization against diphtheria, is diphtheria toxin altered by the action of a dilute solution of formaldehyde and heat. It contains no serum. Excellent results have followed the use of two doses of Toxoid. Available in two 1 cc. vials; also in 30 cc. vials for fifteen immunizations. ((Diphtheria Antitoxin, Lilly, for the treatment of diphtheria, is a carefully prepared product of small volume, low total solids, and sparkling clarity. It is free from non-essential proteins. Supplied in convenient syringe packages. ((To determine natural immunity or immunity acquired by the use of Toxin-Antitoxin, use the Schick Test. ((All Lilly Products are supplied through the drug trade. Write for further information.



ELI LILLY AND COMPANY... *Indianapolis-U.S.A.*

can hardly be overestimated. The x-ray evidence tempts us to risk subjecting our patients to congealed hands for the sake of obtaining an exact anatomical position. In the parlance of the day, therefore, in all injuries of the upper extremity, "Give the hand a chance."

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

MATERNAL MORTALITY FOLLOWING CESAREAN SECTION

Many men are doing cesarean section right often, and each man may be getting fairly good results; but when we add the total number of figures together and see the results obtained by all the men, we wonder if our procedure in every case is based upon scientific knowledge. We believe that it is not so much the question of operation and who can and who cannot do it, as it is a question as to when it should be done.

Plass, in a rather extensive study of a paper published in the August, 1931, issue of *American Journal of Obstetrics and Gynecology*, has reviewed some very interesting facts. For example, in his observation of Holland's figures as to the results of cesarean sections, he gives "not in labor" 1,202 cesareans with a total of 19 deaths, which is 1.6%; "early in labor" 389 cases, 7 deaths, 1.8%; "late in labor" 220 cases, 22 deaths, 10%; "after induction of labor" 35 cases, 5 deaths, 14.3%; "after attempts at vaginal delivery" 107 cases, 29 deaths, 27.1%. We only use these figures to illustrate some points which we have emphasized hitherto in this department, which is to be certain about the actual conditions which we have, and if a cesarean section is indicated, do it early. These figures illustrate the poor results from attempting cesarean section late in labor or after effort has been put forth to deliver by the birth canal.

Plass also states:

"Davis, in reporting the cesarean sections in Houston for the years 1923 to 1926, brought out the fact that in that period there had been 51 operations done by general surgeons and general practitioners with a death rate of 33%, while 56 operations were performed by obstetricians alone or in association with general surgeons with a mortality of only 1.8%. Such figures emphasize the need for judgment rather than the demand for operative skill."

This quotation illustrates again the principles which we have heretofore emphasized. The best judgment should be used to determine when to operate and when not to operate. The probabilities are if we knew in detail the facts as to why the general surgeons and general practitioners did not get any better results, we would discover that some of the essential principles had been overlooked.

Plass further states:

"Greenhill records 1,059 cesarean sections at the Chicago Lying-in Hospital with a total maternal mortality of 1.7%, and Williams reports 349 cases at the Johns Hopkins Hospital with a gross mortality of 12, 3.4%, for the best results reported in this country for comparable series."

These quotations come from two big medical centers. Studying their results should also force into our minds the very essential fact that cesarean delivery is very much more dangerous than delivery by the birth canal, and cesarean should be resorted to only when we are sure that we cannot successfully deliver by the birth canal without irreparable damage to mother.

Maternal Mortality Following Cesarean Section.
Hospitals in the United States

Author	Location	Cesarean Section Mortality %
Welz	Detroit	13.0
Miller	Hartford	4.5
Smith	Indianapolis	11.3
Tiber	Minneapolis-St. Paul	5.7
Thompson	Los Angeles	4.2
DeNormandie	Massachusetts	8.8
Gordon	Brooklyn	7.1
Gynec. and Obst.		
Soc.	New Orleans	16.1
Davis	Houston	14.4

The quotation of this table is given for the purpose of showing the percentage of death rate per 100 in these widely separated localities. Those of us who are working in small communities can well afford to reflect upon these figures and observe the results; but we need, also, to observe the results obtained in the small communities in which we live. We are of the opinion that we can produce better results than we have so far done by more careful and accurate study and acting when we have to act, and when we have basic reasons and principles for acting. We shall continue to emphasize figures and facts which we

The drought and pellagra

If history repeats itself, poverty and privation, due to the drought, will leave pellagra in their wake this spring—as after the Mississippi flood. Authorities agree that a preparation of yeast rich in vitamine-G (B_2) serves as the best preventive of, and treatment for pellagra. To relieve pellagra during the flood of 1927, Dr. Joseph Goldberger, the U. S. Public Health Service and the American Red Cross employed large quantities of Brewers' Yeast-Harris and Yeast Vitamine-Harris in the Southern States.

Their favorable reports thoroughly justified the use of these products. Brewers' Yeast-Harris and Yeast Vitamine-Harris differ from other preparations of yeast in that biological assay of the output proves them to be uniformly very rich in the pellagra-preventive principle, vitamine-G (B_2), and also in vitamine- B_1 .

As a dietary adjunct, Yeast Bouillon Cubes Harris also furnish a dependable source of vitamine-B complex, containing both factors F and G in the form of a delicious broth.

To treat pellagra, prescribe 2 level teaspoonfuls of Brewers' Yeast-Harris two to six times daily.

YEAST VITAMINE-HARRIS

A Concentrate of
BREWERS' YEAST-HARRIS

Samples on request

THE HARRIS LABORATORIES



TUCKAHOE, NEW YORK

hope will enable us to get better results as time marches on.

THE VOMITING OF ILLEGITIMATE PREGNANCY

It has been impossible to find anything in literature bearing on the symptoms of illegitimate pregnancies. For some reason there has gotten abroad an opinion that in illegitimate pregnancies we do not have vomiting. There being on record no information dealing with this subject, and, apparently, men who have thought of it have not recorded their observations, we do not have recorded opinions which would fortify us in whatever opinions we may have based upon our personal observations.

In reviewing our own records of something over 1,000 deliveries in the last few years, we find 19 illegitimate pregnancies which came to term, of which about 1-3d gave a history of nausea and vomiting during the first three months. Ten per cent. of them had a nausea right on up to term. It is our opinion that we have as much nausea and vomiting in illegitimate pregnancy as we do in legitimate pregnancy. Also, in this group of cases we have as much toxemia and eclampsia in proportion to the number of cases as we have in legitimate pregnancies. Within the last four months we have seen two cases of illegitimate pregnancy come to term with convulsions, and both babies and both mothers perished. Neither of these cases had had prenatal care. Both mothers had tried to conceal their predicament, hoping that fate would bring them out of it and the public would not discover their trouble.

Within the last month we have examined three young women 2 to 3½ months pregnant out of wedlock. All three were vomiting their breakfasts and one was losing some of her midday meal and evening meal.

So our opinion, from personal observation, is that illegitimate pregnancies may or may not have nausea and vomiting, but frequently you do have nausea and vomiting and all the other symptoms that go with pernicious vomiting of pregnancy. Also, you can have threatened, or even fatal, eclampsia.

We sincerely hope that a number of men who are doing obstetrics in Virginia and the two Carolinas will write us their impressions of this subject, and maybe we can assemble

information which will dissipate the idea that, in illegitimate pregnancies, we do not have nausea and vomiting and other ills to which those wearing wedding rings are so prone.

UROLOGY

For this issue, HUGH E. WYMAN, M.D.
Columbia, S. C.
The Wyman Urological Clinic

VENEREAL SORES

When a sore is seen anywhere on the body, or in any of its natural cavities, the doctor, in making a diagnosis, should always exclude syphilis, chancroidal infections and granuloma inguinalae. The latter two are extremely rare in locations other than the genitalia. The diagnosis and treatment of venereal sores in any location is essentially the same, therefore, I will confine additional remarks to sores that appear on the genitalia.

There is nothing to be added to what has already been published, but we still see many venereal sores grossly mishandled. The most common error is that of applying some form of medication to the sore before a diagnosis is established. It is unwise, and unfair to the patient, to apply medication in any form, such as cauterizing with an acid, alkali, powder, or liquid antiseptic. These not only alter the appearance of the lesions, but tend to make microscopic studies valueless, and prevent drainage thus favoring bubo formation. Cleanliness with ordinary hot water is all that is necessary, but, if something must be used, compresses of normal salt solution may be applied.

It is never good practice to make a differential diagnosis of venereal sores by visual examination and palpation alone. The history, location, number and induration of sores are not conclusive evidence. Occasionally a doctor is able to guess correctly the type of infection with which he is dealing. The differential diagnosis of primary syphilis (chancre), chancroidal infections and granuloma inguinalae is made only by dark-field examination, which, if negative, should be repeated several times, or by smears made from the sore to identify the Ducrey bacillus, or Donovan bodies. Occasionally we encounter a mixed infection, which may originally have been a chancre, and now a secondary infection is superimposed.

In venereal sores found positive for *Spiro-*

•• Cin - Ko - Tone ••



The physician has in Cin-ko-tone an anti-malarial tonic and alterative of great effectiveness will be seen from a glance at its formula.

Each fluid ounce represents:

Cinchona Bark	24 grs.
Tinct. Iron Citro Chloride	24 min.
Fowler's Solution	10 min.

combined in a sweet, aromatized vehicle which almost completely disguises the bitter taste of the ingredients.

The combined alkaloids of Cinchona as represented in the drug, are better tolerated by many patients than Quinine alone. To this malaria specific is added Arsenic, which is second only to Cinchona in anti-periodic properties and is an hematic tonic and alterative of the greatest value. These, together with the tonic and hematic properties of Iron, cannot fail to give satisfying results in the treatment of chills and low fevers.

Burwell & Dunn Company

Manufacturing Chemists

CHARLOTTE, N. C.

chaeta pallida, of course, antisyphilitic treatment is instituted at once. No medication should be applied to the sore; the patient is instructed to keep the sore clean and it disappears rapidly after antisyphilitic treatment is begun. Donovan organisms establish the diagnosis of granuloma inguinalae, and then injections of tartar emetic are given intravenously and no local medicinal application is necessary other than keeping the infected part clean. Chancroidal sores are purely local and should be treated locally. It is particularly unwise to apply any form of cautery, acid, alkali, powder, or liquid antiseptic to these lesions. Our best results are obtained by having the patient soak the sore in hot water several times daily and apply a piece of dry gauze between the cleansing and soaking treatments. The gauze acts as an absorbent pad in taking up the secretions and keeping the sore clean in between the periods of treatment. In addition, when practicable, we instruct the patient to expose the sore to sunlight, beginning with 5-minute exposures and increasing to 30-minute exposures once daily. By this simple routine, we have found these chancroidal infections heal faster than by any other method, and certainly we have less suppurating inguinal adenitis because we have established drainage through the surface of the sore and not allowed the infectious material to travel up the lymphatics into the inguinal glands.

To summarize:

Never apply caustics, antiseptics or powders to any venereal sore.

Always make a differential diagnosis by repeated dark-field examinations and smears from the sore.

Wassermann examinations of the blood should be made in all cases immediately after the appearance of the sore, and, if negative, repeated at weekly intervals for three months or longer.

The promotion of drainage through the surface of the sore institutes more prompt healing and lessens complications.

Employer (to applicant for a position, who has handed in testimony from three ministers): "We don't work on Sundays. Haven't you a reference from someone who sees you on week days?"—Hard-ware Age.

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D., *Editor*, Charlotte, N. C.

CARE OF THE HAIR

A fine head of hair enhances the appearance of any individual. How to keep it if one has a good suit of hair, or how to obtain it if it has been lost, is a serious question with many people. It is much easier to retain the hair than it is to get regrowth once the hair is lost. Hair will grow in a normal way in most instances if the physiological functions are not interfered with.

The hair should receive daily attention. This attention should be much greater than is bestowed by many individuals. The lack of care accounts for many partially or totally bald heads.

There is, normally, a slight peeling of the outer cells of the epidermis of the scalp. With these dead cells, there is mixed sebum, dirt and many forms of bacteria. This debris is called dandruff. Dandruff becomes a disease when it is excessive or sufficient to excite an irritation with a subsequent inflammation of the scalp. This disease often produces an over-secretion of the sebum which chokes the hair follicle, thus depriving the hair of air and nourishment. The hair cannot live under such conditions and soon atrophies and falls out. A new growth takes place, but this suffers the same fate until, finally, the hair follicles atrophy leaving a permanently bald scalp. Since the bald scalp has no use for the fat and oil glands, these, in turn, atrophy leaving a thin, hard skin which is incapable of growing hair. With proper care and attention, these conditions can be prevented or cured if treated in their early stages.

SHAMPOO

A shampoo is needed once a week for those with short hair, as this exposes the scalp to dust and dirt. For women with long hair and those not exposed to the usual amount of dirt, a shampoo once in two to four weeks is sufficient. It should be remembered that soap and water remove the natural oil and this should be replaced after washing, when the hair is normally dry. This will prevent the hair from becoming dry and brittle. The oil should be applied by first placing a drop on the palm of one hand, rubbing the two hands together, then parting the hair and

GENERAL HOSPITAL . 100 BEDS . FIREPROOF BUILDINGS

DAVIS HOSPITAL STATESVILLE, N. C.

**Complete Clinic all Departments
including
Eye, Ear and Throat, Bronchoscopic
and Physiotherapy Departments**

TRAINING SCHOOL FOR NURSES

rubbing the greased palms down the part. Repeat the process until the whole scalp is covered. One should be careful not to get an excess of oil on the hair, as this will gum the hair and collect dirt.

BRUSHES

The hair brush is the most essential requisite of the hair toilet. It should be selected with care and kept scrupulously clean. The brush should have stiff bristles arranged in groups and set rather widely apart, so that the scalp surface can be more easily reached. The value of brushing the hair regularly can hardly be overemphasized. Brushing the hair not only prevents snarls, but polishes it and increases its luster. In addition, dirt is removed and the hair follicle is stimulated by this mild massage. Brushing should be done at least once a day with sufficient force to stimulate the circulation, but not strong enough to cause irritation.

COMBS

The function of the comb is to aid in the removal of dirt from the hair, to straighten tangled strands and remove dead hair, and

to separate the individual hairs so that the brush may reach down to the scalp. The comb is also used to part the hair. The teeth of the comb should be smooth. A rough-edged comb will break the hair. The points should be blunt to avoid abrading the scalp.

SUNLIGHT AND FRESH AIR

The rays of the sun have a tonic effect on the hair when the proper exposure is given. They impart a richness of color that cannot be otherwise obtained. The proper time to sun the hair is immediately after a shampoo. The sun bath should not be too long or too frequent. Prolonged exposure will often burn and discolor the hair. This is particularly true of jet black hair, which is changed by the sun to a dingy gray or a reddish tinge. The fad of going bareheaded during the hot months over-exposes the hair to the sun and should be condemned. A hat should be worn when out-of-doors, particularly if the sun is shining brightly. The hat should be light and well-ventilated and the hat band should not be too tight. In hot weather, it is advisable to remove the hat occasionally and wipe the moisture from the forehead and

sweatband. Wear a hat when in the sun, but remove it when in the shade or indoors.

In early youth, the ordinary cure of keeping clean is sufficient to keep the hair in good condition, but, later in life, there are atrophic changes which produce a hard, tense scalp with a tendency toward shedding of the hair. If the process is not properly cared for, baldness results. To keep the hair, one must stimulate the blood supply and see that the general health of the patient is properly cared for. Systematic massaging of the scalp morning and night followed by brisk brushing will often invigorate a sluggish scalp.

SUMMARY

If one wishes to keep the hair in good condition, the following rules will be helpful:

1. Comb and brush the hair thoroughly twice daily with the proper type of comb and brush.
2. Shampoo the scalp at regular intervals.
3. Replace the oil washed from the scalp.
4. Sun and air the hair regularly, but avoid over-exposure to the sun rays.
5. Wear a light, loose-fitting, well-ventilated hat when out-of-doors.
6. Massage the scalp twice daily if there is evidence of a tense scalp.
7. Do not moisten the hair when dressing it.

HOSPITALS

MERCER C. PARROTT, M.D., *Editor*, Kinston, N. C.

HOSPITALS AND INDUSTRIAL COMMISSION

On August 25th, 1931, a joint meeting of the N. C. Industrial Commission and a committee from the N. C. Hospital Association was held at the Parrott Memorial Hospital, Kinston. It seems that the Industrial Commission planned to publish a schedule of hospital fees for accident cases coming under the jurisdiction of the commission. Information reaching Dr. Harold Glascock, president of the Hospital Association, to the effect that this new schedule of fees would be highly unsatisfactory, prompted him to call a meeting of representative members of the Association to discuss the matter and attempt to secure a rate which would at least prevent loss in the handling of industrial cases. At this meeting, which was held in Raleigh on August 20th, a committee was appointed to draft

a fee schedule and submit it to the Industrial Commission at a meeting, on the 25th, to be held at the Parrott Memorial Hospital in Kinston where Commissioner Allen was confined with a broken leg.

As a member of the hospital committee, it was my privilege to hear the argument of both sides. At the opening of the meeting, the Industrial Commission and the Hospital Committee were far apart in their respective ideas as to what were fair hospital fees for the industrial cases. And, after a 5-hour session, only a partial agreement was reached. The list of fees submitted by the Industrial Commission were, for the greater part, far below actual cost. It would have meant ultimate ruin for the private hospitals of our State, if those fees had been forced upon us.

At the meeting Commissioner Dorsett announced that he represented the employers of labor and he warned the hospitals as to what would happen if their charges were not reduced, and pictured the great distress of many of the group he represented if insurance rates should be increased, and he stated that under present rates the insurance companies were losing money. And then Commissioner Wilson announced that he represented the employees and he pictured the havoc that would result to his constituents if the hospital cost was not reduced.

It was evident from the discussion that Chairman Allen, who represented no particular group, was more liberally inclined than Messrs. Dorsett and Wilson, but while an agreement was finally reached as to ward and private room rates, Chairman Allen would not agree to the fixing of a schedule of laboratory fees, and items of this character were passed over and left so that each case must stand on its merits with the burden on the hospital to justify laboratory fees.

I have nothing but praise and good-will for the members of the commission. Theirs is a trying task, and I am sure that they are honestly endeavoring to give everyone a square deal. But it seems that they do not or cannot realize that the hospitals of N. C. are struggling for existence even to a greater degree than are the manufacturers, and that they must collect fees commensurate with the cost of maintenance.

It appears to me that the doctors and hos-

The Tulane University of Louisiana
GRADUATE SCHOOL of MEDICINE

Approved by the Council on Medical Education of the A. M. A.

Post-graduate instruction offered in all branches of medicine.

Courses leading to a higher degree have also been instituted.

A bulletin furnishing detailed information may be obtained upon application to

THE DEAN

GRADUATE SCHOOL OF MEDICINE

1430 Tulane Avenue, NEW ORLEANS, LA.

pitals of N. C. should have representation on the commission. The medical and hospital end of the handling of industrial cases is, indeed, an important factor, and if I am correctly informed represents in dollars and cents approximately one-third of all the money paid out under the Compensation Act. The present personnel of the commission consists of the chairman, Major Matt H. Allen, who is a neutral, Mr. Wilson representing Labor, and Mr. Dorsett representing Employers. Who, may I ask, represents the doctors and hospitals? We have to accept, more or less meekly, whatever is handed out to us by a commission composed of one lawyer, one ex-manufacturer and one ex-printer, neither of whom makes any pretense of any expert knowledge upon the question of hospital charges. And this responsibility is unfair to these men.

Now the point I wish to impress upon the hospitals and doctors is that we are entitled to representation either with or upon the commission. It seems to me that if we should go to the Industrial Commission and with its members to the Governor of the State, we might be able to get an appropriation through the Governor sufficient to give the commission an all-time high class doctor and hospital superintendent who would be charged with the responsibility of adjusting and regulating these charges. I think such an arrangement would bring peace to the warring interests and relieve the commissioners of a responsibility which it would be happy to pass on.

If this cannot be done, then the Hospital Association and Medical Society ought to busy themselves between now and the next General Assembly and see that the next legislature provides for an additional member of the commission who will represent the hospitals and medical men.

PUBLIC HEALTH

GEO. M. COOPER, M.D., *Editor*, Raleigh, N. C.

CONTROL OF POLIOMYELITIS

As this sketch is being written (August 14th) reports of the increasing prevalence of infantile paralysis in New York and nearby States are published in the daily papers. There have been more cases occurring in North Carolina than usual, two Charlotte physicians alone having made a diagnosis of seven cases of the disease from surrounding territory.

This disease is one which is the cause of great concern to people throughout the world. The same papers publishing the reports of the increased prevalence in so many sections of this country carry a story of the efforts being made by the government of far-away Australia to further the study of methods of prevention and control. A recent conference of the British and Australian public health authorities recommended a number of measures in connection with the disease. They are not only directing their efforts to prevent its spread; they are making thorough plans for more careful study as to the chief cause

and how the disease is spread.

It is interesting to note that the Australian conference has urged upon the education department of that country to make the general education of cripples compulsory, and also recommended that they establish vocational training schools for the cripples. Their health departments and medical profession are urged to make available more carefully prepared and tested serum, and to test thoroughly the efficiency of pooled adult serum, as well as the use of the serum treatment in the acute stages the moment a diagnosis is made. They are also recommending that more appropriate treatment in the convalescent patients be applied in order to prevent disabilities.

Just a few days ago a department bulletin of the Connecticut State Board of Health, following a conference of New England State Health Officers held in Boston with the Harvard Infantile Paralysis Commission, issued a statement from which we quote:

"Plans were completed for making available wherever needed in New England the diagnostic, therapeutic and after-care resources of the Harvard Infantile Paralysis Commission. Parents should realize that early medical care is important. Perhaps the most suggestive early sign warranting attention is a stiffness of the spine and neck in a sick child, best shown when the child is asked to sit up in bed and bend the head forward between the knees."

In the opinion of this writer, based on his experience in the practice of medicine and dealing as a health officer for many years with the disease from an epidemiological standpoint, the foregoing suggestive early symptom is one of the best diagnostic signs that any physician could discover. Every effort should be made to make as early diagnosis as possible; then the serum should be given at the earliest possible moment.

The concluding paragraphs of the New England Conference Report should be suggestive to local health officers and conductors of children's camps in this State, as everywhere else. The paragraphs follow:

"Infantile paralysis is spread by personal contact with patients or healthy persons carrying the infection. Children's contacts, therefore, should be restricted to the usual groups of associates. Camps and children's institutions are advised to discourage visiting by outsiders.

"Children now in camps under controlled conditions and observation had better stay there rather than increase their contacts by leaving. Health authorities of the several states are prepared to cooperate with and assist all camp directors."

Local boards of health should be advised against drastic measures in attempting to control poliomyelitis. All attempts at community isolation have always proved ineffective. Education of the public as to all necessary precautions at present known, and early contact with a competent physician—which means an early diagnosis to be followed with serum treatment just as early as possible—is about the substance of precautionary measures advised.

Eye, Ear and Throat

V. K. HART, M.D., *Editor*
Charlotte, N. C.

SOME PERTINENT REMARKS ON ASTHMA

A typical asthmatic attack is a bronchospasm. This produces the characteristic expiratory type of dyspnea for which the physician usually gives adrenalin hypodermically. This stimulates the nerve endings (myoneural junction, I believe) of the thoracolumbar sympathetic system, which stimulation produces a dilatation of the bronchi with relief.

The antagonist of the thoracolumbar system is the cranioautonomic, as represented by the vagal endings in the bronchi. Stimulation then of the vagus system will produce bronchospasm. The relation of the nose to this bronchospasm is very important. It may be that here the reflex spasm is precipitated, for many such spasms are reflex.

The nucleus of the vagus is connected with the nucleus of the 5th by the gelatinous substance of Rolando. The 1st division of the 5th gives use to the nasal nerve which passes through the anterior ethmoid foramen into the cranial cavity and descends through the cribiform plate and olfactory fissure to the upper septum and lateral nasal structures. The 2nd division of the 5th sends branches to Meckel's ganglion which in turn supplies part of the nose. Whether these branches actually have synaptic connection in the ganglion or pass through the ganglion is purely academic. Practically, we have ample nasal connections through the 1st and 2nd divisions of the 5th

with the 10th *via* the gelatinous substance of Rolando. From the 10th nucleus the vagus completes the reflex arc to the bronchi.

Consequently for the nose to be a factor in an asthma, it is not necessary to have actual suppuration. Deformities and hyperplastic changes may cause reflex spasm. If a sup-puration does exist, it may act both as a toxic source and a local irritant.

The "trigger" area for this reflex has been shown by Haseltine and his co-workers to be the ethmoid region. They presented a symposium on this subject appearing in the *Medical Journal and Record* of November 6th and 20th, 1929, and recopied by the *Eye, Ear, Nose and Throat Monthly* for June, 1931.

Haseltine carries the thought further, and with considerable logic. "If the neurophysiological balance is normal, probably any amount of nasal disease can be borne without this symptom." He assumes, therefore, a toxicosis which may so weaken the sympathetic side of the arc, *viz.*, the dilating side (possibly through depressed adrenal function), that there is now a bronchospasm if a nasal irritation exists. The essence of his argument is that both a toxicosis and a nasal reflex are fundamentals in an asthma. Thus the hay-fever patient later in life is very apt to become asthmatic after nasal changes have taken place. It is rare indeed to see the bronchospasm first and later the hay fever.

The importance of this type of reflex arc is illustrated by simple clinical experience. Wax in an ear canal may produce a cough *via* Arnold's nerve. Strong light in the eye may produce sneezing *via* the ophthalmic division of the 5th. Unilateral bronchospasm has been reported following nasal irritation. Similarly bronchospasm has been relieved by the use of cocaine in the nose.

In the symposium referred to La Forge stresses five important factors in any asthmatic:

1. The nose and accessory sinuses as the source of reflex bronchospasm. (Kern and Schenck in the *American Journal of the Medical Sciences* for August, 1929, reported 86.5 per cent. of 173 asthmatics with positive sinus disease.)

2. Those conditions which cannot produce bronchospasm but can intensify a coexisting asthma by producing toxicosis due to septic absorption from foci of infection. Such foci

Montague Hospital

Exclusively for

RECTAL
and
COLONIC
AILMENTS

*Offering special
facilities for the
diagnosis and
treatment of rec-
tal and colonic
diseases.*

36th St. East of
Lexington Ave.

New York
City



are diseased tonsils and teeth, infected gall bladder, pelvic infection, etc.

3. Those conditions which inhibit the excretory functions of bowels, skin and kidneys. These will aggravate an already existing toxicosis.

4. Anything that will influence the branches of the vagus, not producing bronchospasm, but making more irritable the nasal reflex arc. Here would be included such things as gall stones, ovarian cyst, etc.

5. All those factors which may produce a syndrome simulating asthma. Under this heading come heart and kidney disease, pulmonary and mediastinal neoplasms, hydrothorax, aneurysm and overlooked foreign body of the lung.

With reference to the latter, Jackson long ago said that "all that wheezes is not asthma." Just because pulmonary neoplasm or foreign body is only occasionally found is no reason that these patients should be denied a bronchoscopic examination. Curiously enough, many of them are relieved for several months by bronchoscopy and the intrabronchial use of an aromatic oil.

Nothing has been said of allergy, that much emphasized phenomenon of some asth-

matics. LaForge states that after detoxication by hot packs, saline cathartics and ample fluids for diuresis, patients could take foods to which they were before sensitive, without reaction. We should accept this statement with reservation for clinical trial, but it does furnish food for thought. These men are relegating allergy to secondary consideration.

Much has also been written about bacterial proteins in asthma. An asthmatic of long standing probably very often develops a secondary infection of the bronchi. It is doubtful whether this is the primary cause. An autogenous vaccine made from direct bronchoscopic aspiration of the bronchi has brought relief, at least temporarily, to an asthmatic child referred to me for bronchoscopic study.

The fact does remain that, from an economic and therapeutic viewpoint, the results of skin tests for allergy in asthma have been disappointing. Moreover, it seems logical that the asthmatic deserves more careful medical and rhinolaryngological study. Haseltine and LaForge claim that one is not successful without the other. Success can only be judged by the freedom from attacks, and our idea should be to get the patient well with as little surgery as necessary to restore a normal neuropsychological balance.

GYNECOLOGY

CHAS. R. ROBINS, M.D., *Editor*, Richmond, Va.

BACKACHE IN WOMEN

That diagnosis is necessary to the successful treatment of disease is generally accepted as an axiom, and yet we find that, in actual practice, while we go through a form of examination and history-taking, our conclusions from our data are somewhat loosely put together. We often take things for granted and do not really reason out our conclusions as we should. There is no better example of this than in the supposed relation of retrodisplacement of the uterus to backache.

A woman comes in complaining of backache. An examination is made with the patient in the recumbent position and the fundus is found retrodisplaced. We therefore conclude that the backache is caused by the retrodisplacement and an operation is recommended. If the patient is not relieved by the operation we perhaps conclude that the pa-

tient is neurotic. The fault lies, not in the patient, but in ourselves. We have been taught that retrodisplacement of the uterus causes backache, also that acquired retrodisplacement follows childbirth. If therefore a woman who has a backache, which she dates from childbirth, is found with a retrodisplacement, the logic would seem to be irresistible that the displaced uterus causes the backache. But suppose the uterus is not retrodisplaced and still she has a backache, how is one to account for that? And this is frequently the case. The trouble is that a retrodisplacement of the uterus is one of the easiest things to make out and is also quite common. We find the condition, conclude that the evidence is complete, and an operation is performed without discovering and proving what the real cause of the backache is.

As the result of such inefficient diagnosis the results secured are often a reflection on surgery. This failure is frequent enough to make some gynecologists state that a mobile retrodisplacement does not cause symptoms. This statement is probably as wide of the mark as the statement that all retrodisplacements are pathologic. What the gynecologist is called upon to do is to determine accurately the cause of the symptoms, and apply the proper cure. We cannot expect an operation, however skillfully performed, to cure a patient, if the operation does not cure the pathologic cause of her complaints. *In post-partum backache the cause lies more frequently in relaxed sacro-iliac joints than in the position of the uterus.*

SURGERY

GEO. H. BUNCH, M.D., *Editor*, Columbia, S. C.

APPENDICITIS vs. SALPINGITIS

The differentiation of acute appendicitis from acute gonorrheal salpingitis has frequently to be made in this day of free license and fast living. When a young woman, single or married, is sent to the surgeon for appendectomy he should be careful to eliminate salpingitis before opening the abdomen, for the treatment of acute appendicitis is surgical and the treatment of acute salpingitis is rest in bed until the inflammation subsides. Gynecologists have found that if the gonorrheal patient remains in bed until the fever, the tenderness and the pain have disappeared she

will usually get well without operation. Many women treated in this way have patent tubes. They conceive and have children. Their health and their lives are essentially the same as though the disease had never been contracted. Acute gonorrheal salpingitis under favorable conditions is self-limited, and even when the patient does not go to bed but continues her routine way of living she may overcome the infection as is seen in the nodular tubes and hydrosalpinx of chronic pelvic inflammatory disease.

Acute appendicitis begins with pain and tenderness about the umbilicus. In a few hours this becomes localized in the right lower abdomen with the maximum tenderness and rigidity near McBurney's point. There is nausea and vomiting with slight fever and moderate leucocytosis.

Acute salpingitis begins with burning on urination with increased frequency. There is leucorrhea and in a few days pain, tenderness and rigidity above the pubes usually as bad on one side as on the other. There is fever. The leucocyte count is higher than in appendicitis. There is apt to be pus in the urine. Microscopical examination of a vaginal smear shows gonococci.

It may be difficult to differentiate between diffuse peritonitis from a perforated appendix and a gonorrheal peritonitis coming from the tubes. With a carefully taken history, however, the distinction can usually be made. Experience shows the wisdom of delaying operation for a few days for localization to take place, no matter what may be the origin of the peritonitis. Laparotomy in acute gonorrheal peritonitis is not without danger. The intestine is congested and adherent with plastic lymph. The tubes are congested and pus may be expressed from the fimbriated ends. At laparotomy on such a case the surgeon is placed in a dilemma. How radical must he be?; how conservative dare he be? The tubes may be removed. The uterus and ovaries should not be removed. If the patient is a working girl and has to be on her feet health is so imperative that everything should be sacrificed for it. If she has the means to rest in bed several weeks she can afford to take a chance on getting well without radical surgery.

Even though the surgeon thinks the condi-

The Veil Maternity Hospital

WEST CHESTER, PENNA.
(former address Langhorne, Penna.)

Absolute privacy and special ethical treatment. Patients accepted at any time during gestation. Open to Regular Practitioners. Early entrance advisable.



For Care and Protection of
THE BETTER CLASS UNFOR-
TUNATE YOUNG WOMEN

Adoption of babies when arranged for. Rates reasonable. Located twenty miles southwest of Philadelphia on the interurban and Pennsylvania R. R. Write for booklet.

Write for Booklet.

THE VEIL

WEST CHESTER, PENNA.

tion is acute pelvic inflammatory disease, he may be afraid not to operate if there are symptoms of appendicitis. He should remember that a low-lying appendix is involved in every pelvic inflammation. Such a secondary involvement, however, is not a true appendicitis. There is no obstruction to the lumen. There is no septic thrombosis of the appendiceal vessels. Such an appendix does not become gangrenous and does not perforate.

I have taken as much as a half drop of pure ETHYL ALCOHOL FROM THE BRAIN of a man who never touched liquor in his life.

Alcohol is a normal part of the brain, not only of persons but of animals as well. I have found it in dogs, pigs and other animals.

Alcohol is normal to the body. What part of the body this alcohol is made in, and why it is made, are things we have yet to determine.

Meanwhile we can know more certainly than ever before that the body can handle moderate amounts of alcohol—and I mean moderate—without injurious effect, and probably with some degree of advantage.

—A. O. GETTLER, before the *Amer. Chemical Soc.*

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D., *Editor*
Winston-Salem, N. C.

THE SWIMMING POOL MENACE

The late Dr. H. W. Stelwagon, who for many years taught skin diseases at Jefferson, often said that he felt like taking off his hat whenever he passed a barber shop, for it sent him so many patients. Nowadays the general practitioner might well follow Dr. Stelwagon's example when he drives by a swimming pool, for these places of amusement do much to keep us occupied during the summer months; and the eye, ear, nose and throat specialist might bow down to the earth, for he profits most of all. This is not meant to disparage the value of swimming as a recreation. It is perhaps the best all-round exercise one can take, and has the great advantage over golf or tennis that it cools one off at the same time it is developing muscle. Incidentally, the fashions in bathing suits that have prevailed for the past few years leave very little of the skin unexposed to the good old ultraviolet rays, fresh from the source.

It is questionable, however, whether the advantages make up for the risks incurred in the average swimming pool. By risks are not meant such minor surgical casualties as an occasional lacerated scalp or abraded forearm from an unexpected contact with the concrete bottom of the pool. The real risks are those of upper respiratory infections—varying from a mild pharyngitis to a sinusitis, mastoiditis, or influenza-pneumonia. Only today a 12-year-old girl, from a highly intelligent family, was brought to my office because of a severe cold that had lasted a month. Her throat was red, her nose discharging, one ear-drum markedly congested, and she was coughing frequently; yet she admitted having gone in the pool almost every day, and protested vigorously when I forbade it for the duration of the cold. It had never occurred to her parents that she was not only impairing her own health, but was exposing others to her infection.

Last summer I visited seven youngsters almost in succession, all ill with influenza. Every one gave a history of having been in the same pool within the previous two or three days. Surely this was more than a coinci-

dence. It was just as significant as when an epidemic of cold sweeps through a close-packed ward in a hospital.

The swimming pools are so strongly entrenched in the affection of the public that it is useless to object to the children in our families using them, unless we want to experience the humiliation of having our orders laughed at. It may be possible, however, to persuade a few to stay out of the water while harboring an active nose-and-throat infection.

It is not a pleasant thought, but, in the final analysis, the average swimming pool is nothing but a community bath tub. It is even more conducive to the transfer of infections than would be a single private tub filled once and used by several people in succession, without a change of water. I say more conducive, for the bather in the tub would keep his head above the surface, whereas nine out of ten people enter a pool by diving in head foremost, and their first act on coming to the surface is to blow the nose and spit in the water.

Even the ancient Romans might lay claim to better sanitation than we moderns, in this respect. Their public baths, I have read, were filled with wine; and whatever else may be said about alcohol, its antiseptic qualities have never yet been successfully disputed.

"THE AMERICAN NAUHEIM"

Until recently I had a good opinion of the institution known as Glen Springs, at Watkins Glen, New York. I knew a number of people who had gone there and from their reports I had come to regard it as a clinic with a well-balanced medical staff, endeavoring to do good, honest work, without undue profiteering. Their ethical standards I thought were beyond reproach.

But now comes the final blow to any claim to ethical standing Glen Springs may have. On the inside of the cover of *Harper's Magazine* for August appears a full page advertisement headed "heart trouble," from which I quote, assuming responsibility for the italics. "Many people alarm themselves needlessly for years over a heart really strong and sound. It is possible today—thanks to the electrocardiograph—to analyze heart action as one analyzes a slow movie of a steeplechase; possible, too—thanks to the toning and strength-

ening effects of Nauheim brine on the heart muscle—*actually to reinvigorate this wonderful servant—not by months but by years.*

* * * Radio-active waters like those of Nauheim itself—found nowhere else in America. Ask your own physician how rheumatism, heart, and kidney affections especially are benefited by the 'cure' as taken here at The Glen Springs."

This reads like a patent medicine advertisement in the palmy days before any restriction was placed upon the claims they were allowed to make. How can the medical men in the employ of an institution that makes such a preposterous claim as that Nauheim brine will reinvigorate the heart "not by months, but by years" maintain their self-respect?

PEDIATRICS

E. K. McLEAN, M.D., *Editor*, Charlotte, N. C.

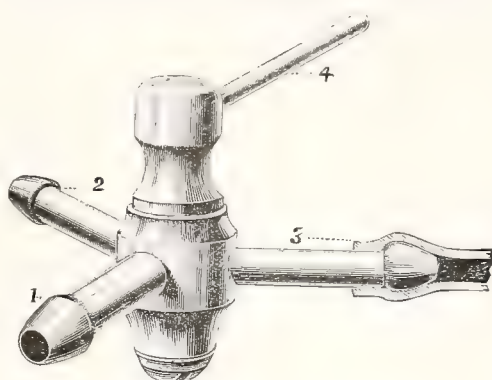
CELIAC DISEASE

Of the chronic affections seen in infancy and childhood celiac disease is one of the most distressing. Gee (1888) was the first to give a modern scientific description of the disease; since his time much has been written on the subject. Various hypotheses have been advanced as to the underlying cause. Bacteria have been blamed, *B. infantile* and *B. bifidus*, but so far the disease has never been transmitted.

Faulty fat, carbohydrate and mineral metabolism has, each, been advanced as the cause. MacRae and Morris' experimental work has brought them to the opinion that the defect is of absorption, and that the condition is due to change in the physico-chemical constitution of the intestinal contents. Unfortunately, post-mortem examinations have thrown no light on the subject. The most striking feature of the disease is inability to use fats, and this is accompanied by a failure to properly utilize carbohydrates. The disease has never been observed in the breast-fed.

The early diagnosis is frequently difficult as the onset is insidious. Usually there is a history of diarrhea or some respiratory infection. The child becomes peevish and fretful and loses his appetite. Later the bowels become loose and offensive. Various changes in diet give no results and the child loses strength

Perfection Bladder Washer



1. Arm for fountain syringe.
2. Arm for soft rubber catheter.
3. Arm for off-flow tubing.
4. Lever handle which is turned in whatever direction fluid is desired to flow.

PRICE \$1.50

POWERS & ANDERSON, INC.

Richmond, Va.

Norfolk, Va.

and weight until the typical picture of the disease is revealed.

The appearance of the child is then quite characteristic: the large, protuberant abdomen, spindly legs and emaciated body. The stools are voluminous and numerous, of a greyish color and semi-soft. Examination of these shows an excess of fat, in some cases amounting to one-half of the weight of the dried stool.

The blood picture is that of a secondary anemia. In the differential diagnosis, Hirschsprung's disease, tapeworm, the pot belly of rickets and abdominal tuberculosis must be eliminated.

The treatment of the disease is beset with many difficulties. There is no tendency to spontaneous recovery. Relapses occur and parents should be warned at the outset of the difficulties and disappointments they are likely to encounter. There is no dietetic plan that is consistently successful. The treatment consists of keeping the gastrointestinal tract as free of toxic material as possible, and this is best done by the administration of a week-

ly dose of castor oil and a daily enema of sodium bicarbonate, and providing a diet that will meet the metabolic requirement of the child.

A high-protein diet is the only one that is tolerated. Carbohydrates must be restricted with one exception, namely, ripened bananas. Protein is best given in the form of protein milk or skimmed buttermilk, cottage cheese and white of egg. Broths and jello may also be given.

When the stools decrease in number banana must be added. As many as a dozen bananas a day may be given. Since Haas advocated the use of ripened bananas in celiac disease relapses upon the addition of carbohydrate have been less frequent and the children have been much more comfortable and contented.

It is necessary to strictly maintain the diet until the patient shows a gain in weight and a decrease in the number and size of the stools. As improvement takes place fruit juices and a more liberal diet may be allowed.

These patients having a very low resistance must be carefully protected from infections and their general hygiene carefully looked after.

INTERNAL MEDICINE

PAUL H. RINGER, M.D., *Editor*, Asheville, N. C.....

THE REPORT OF THE MEDICAL DEPARTMENT OF THE UNITED FRUIT COMPANY FOR THE YEAR 1930

The report embraces papers on a multitude of conditions, medical and surgical. We will deal with but the former in this article. The topics involved deal naturally with problems of tropical medicine, as the scene is laid in Guatemala, Salvador, Nicaragua, Costa Rica, Panama and Cuba. Many of the articles,

however, are of sufficient interest to the practitioner in the South to warrant attention. Malaria naturally occupies the first place, and the accompanying table gives interesting information.

Hemoglobinuria or blackwater fever occurs; and while its origin is still obscure, there seems but little doubt that there is a direct relationship between malaria and blackwater fever cases. The latter develops in many instances as a result of the administration of quinine, and it apparently acts as a provocative agent for the precipitation of an attack. However, many patients develop blackwater fever to whom quinine has not been given and who are cured by it if it is properly administered.

AMEBIC DYSENTERY

During 1909 the method of treating amebic dysentery by huge doses of bismuth subnitrate was introduced in the Canal Zone. The patients were given from 180 to 200 grains of bismuth subnitrate stirred in a small tumbler of water 3 or 4 times daily. The acute cases were confined to bed and placed on a milk diet. For tenesmus warm saline enemata were administered. Rarely was it necessary to give a hypodermic of morphine to relieve pain. This method of treatment was continued in the Ancon Hospital up to 1913 and was considered by the hospital staff as the most satisfactory method that had been developed up to that time.

In 1913, Sir Leonard Rogers introduced emetine, and the immediate results from its use were so satisfactory that it was added to our medical armamentarium. It was soon found, however, that a high percentage of the cases treated by emetine alone relapsed within a few months. We therefore resumed the bismuth treatment, supplementing it with hypodermic injections of emetine. As a routine procedure, 1/3 to 1/2 of a grain was given on the first day, and after that 2 or 3 injections of from 1/3 to 1/2 of a grain each were administered daily until a total amount of from 5 to 7 grains were administered. This constituted a full course of the drug, which was then suspended for several days. Several

Number of employees per 1,000 per annum admitted to hospitals for malaria, years 1925 to 1930:

Year	Colombia Division	Costa Rica Division	Guatemala Division	Panama Division	Tela R.R.	Truxillo R.R.	Banes Division	Preston Division	Total 8 Divisions
1925	95.72	156.83	325.14	230.37	184.47	259.46	522.61	242.27	239.16
1926	68.69	259.75	301.05	164.94	158.42	196.46	459.48	134.51	218.60
1927	52.56	222.10	208.78	110.60	199.55	183.28	131.16	100.29	146.76
1928	64.00	147.51	134.91	120.07	113.31	162.05	53.58	37.17	99.89
1929	124.72	95.63	100.78	69.78	119.96	170.02	31.02	18.39	89.34
1930	102.51	67.02	133.68	40.15	110.44	167.03	15.73	12.30	84.76

modifications of this dosage followed from time to time; as it was found that emetine depressed the heart if too large doses were given or if it was too long continued and at times neuritic and other untoward symptoms developed. Up to the present time the combination method of emetine and bismuth subnitrate has been used as the routine treatment in the United Fruit Company hospitals.

In the year 1921 yatren was introduced for the treatment of amebic dysentery; and, more recently, the American product (anayodin) has been placed on the market. These drugs are closely related chemically, and the reports indicate encouraging clinical results from their use. There are many things to be considered in recommending any method of treatment for amebic dysentery. Among these are: (1) the time required to effect a cure; (2) the possibilities of relapses, the development of complications, liver abscesses, etc.; and (3) the cost of the drugs used.

HOOKWORM

In 1930, hookworm disease was recorded as a primary diagnosis in 557 cases on the United Fruit Company plantations. This does not indicate the true incidence of hookworm among the hospital patients, as it is often encountered as a secondary condition. It should be noted, however, that there were no deaths among employees attributable primarily to this infection, which substantiates the opinion of our clinicians that in our divisions the condition is not a serious menace from a mortality standpoint.

LOBAR PNEUMONIA

The incidence of lobar pneumonia as well as the fatality rates continue about the same from year to year.

Cases of lobar pneumonia admitted to the hospitals, and number of deaths from this condition as well as total deaths from all causes, years 1926 to 1930 inclusive:

Year	Cases	Deaths	%	Total Deaths
				All Causes
1926	442	124	28.1	737
1927	329	108	32.8	765
1928	368	138	37.5	739
1929	324	95	29.3	797
1930	267	83	31.09	750

INFLUENZA

There were 533 cases of influenza and complicating conditions admitted to the hospitals in 1930, with one death. Influenza was mildly epidemic in the Columbia, Costa Rica and Tela Railroad Company Divisions. In 1929, 1,376 cases were admitted to the hospitals. Influenza is frequently accompanied by mild or severe bronchitis and it is not unusual for a case to develop into bronchopneumonia with a lethal termination.

TUBERCULOSIS

Undoubtedly influenza must be considered as an important predisposing cause. Many cases, however, do not have this exciting etiological factor, and

DUKE HOSPITAL

Durham, N. C.

WARD PATIENTS. Duke University cannot give charity treatment to all who apply, therefore patients whose incomes are less than \$15 per week should apply for examinations or for admission to the hospital wards (whether full-pay, part-pay or free), through their family physicians, to the Duke Public Dispensary (Tel. Durham F-131) on the days and hours listed below. The charge for examinations in the Duke Public Dispensary is \$2, exclusive of X-rays and special tests, and the ward rate is \$3 per day, if the patient can pay. Welfare departments and churches should assist in the payment for the needy.

SCHEDULE OF THE DUKE PUBLIC DISPENSARY. White patients at 1 p. m.; colored at 3 p. m. *Medicine and General Surgery:* Daily, except Saturdays, Sundays and holidays. *Obstetrics, Women's Diseases and Urology:* Tuesdays and Fridays. *Children's Diseases, Ear, Nose, Throat and Dentistry:* Mondays and Thursdays. *Eye:* Thursdays. *Asthma, Hay Fever and Skin Diseases:* Tuesdays. *Syphilology:* Wednesdays. *Orthopedics:* Mondays and Wednesdays.

PRIVATE PATIENTS. Patients who can pay the private rates of \$5 to \$8 per day may at any time, through their family physicians in consultation with any member of the hospital staff, reserve private rooms by telephoning to the admitting office (Durham F-131). Appointments for private examinations and treatment may be made in advance by telephoning to members of the hospital staff.

Every effort is being made to co-operate with the medical profession, and patients are asked to return to the physicians who referred them to the hospital and public dispensary.

This announcement of the methods of admission is made to avoid misunderstanding, delay or unnecessary trips.

others must be considered. In all tropical countries there is an abundance of fresh air and sunlight. However, the native people have a tendency to close the doors and windows to exclude the "night air" which they consider a menace to their health. Probably the most important factor here is defective nutrition which results from either the inadequate quantities or the poor quality of the foods. It would be difficult to estimate the exact incidence of tuberculosis, since there are undoubtedly numerous cases with mild symptoms, which delay reporting to the hospital or dispensary until their condition is serious. Many cases are deported and others repatriated. In 1930 there were 355 cases admitted to the hospitals and 53 deaths. In 1929, 380 cases were admitted to the hospitals and 59 patients died.

TYPHOID FEVER

During the past year, 121 cases of typhoid fever and 11 cases of paratyphoid fever were treated in the hospitals. There were 12 deaths from typhoid and 2 from paratyphoid. In 1929, 106 cases of typhoid fever and 18 cases of paratyphoid fever were treated in the hospitals, with 18 deaths from typhoid and 2 from paratyphoid.

BERIBERI

The following table shows the number of cases reported by the respective divisions:

	1927	1928	1929	1930
Banes Division	1	1	4	1
Chiriqui Division	?	?	0	0
Colombia Division	5	13	15	15
Costa Rica Division	0	0	0	0
Guatemala Division	1	0	0	0
Panama Division	1	1	1	0
Preston Division	22	9	35	3
Tela Railroad Co.	1	0	2	4
Truxillo Railroad Co.	1	18	11	11
Totals	32	42	68	34

It is generally believed that beriberi is caused by the deficiency of one factor of Vitamin *B* in the diet. However, Dr. Jantzen has contributed an article to this report in which he states that Vitamin *B* deficiencies in the diet will not explain all the etiological factors in the beriberi syndrome.

During recent years considerable advance has been made in the treatment of malaria, since the introduction of plasmochin. The following paragraph gives in brief the essential measures for malarial control among the camps:

The line technician notifies the central office of a department when a survey of a certain group of camps will be made, and requests that they be notified and have the men available. Each camp is advised as to the time the technician will arrive. From three to six camps are surveyed, and from 300 to 600 blood specimens are collected, at a trip. After examinations are completed a list of the positives is sent to each camp with medicines sufficient for 6 days treatment of each infected individual. One plasmochin compound tablet and 10 grains of quinine, twice a day, is administered personally by the overseer, foreman or other responsible person; and, after the period has expired, a report is sent to the hospital signifying that to his personal knowledge all have received the full course of treatment or stating the reasons why any have failed to receive the prescribed medicine. If a report is sent that all have been treated, and two or three of them are in the hospital at the same time, it is obvious that the work was not done.

The conclusions follow:

Our conclusions from experience in this division are:

(a) that attempts at mosquito control and intensive sanitary work alone will not reduce malaria, to an extent which will justify the expenditures involved to effectually control mosquito breeding, in the large areas of a banana division where the labor turnover is large and the laborers are housed in unscreened quarters;

(b) that camp treatment is of little or no value; if the laborers are merely given the medicines and

instructed to treat themselves, as they will not take them regularly for the required length of time; and

(c) that, with the methods now employed and with reasonable stabilization of labor and co-operation from other departments, it is possible to reduce the rate of infection to 5 per cent. as determined by periodical surveys.

Dr. N. P. Macphail, working in Quirigua, Guatemala, gives an interesting paper on the use of plasmochin in malaria from which several excerpts are here given.

All collections of water in close proximity to camps were drained when possible; and treated with oil or Paris green when drainage was impracticable. These measures were directed against the breeding of the *Anopheles* mosquito. On the other hand, the human carrier was treated with lengthy courses of quinine, arsenic, and other tonic preparations, under as close supervision as possible.

We began to examine the bloods of patients about to be discharged from the hospital after malarial attacks. We found that an alarming number of those patients; whose symptoms of fever had disappeared for a minimum of 5 days, and who had excellent appetites and were demanding to be discharged, carried large quantities of gametocytes in their peripheral blood. We found it impossible to eliminate the sexual forms from the blood by quinine and arsenic treatment in a reasonable time. In consequence we were discharging from the hospital large numbers of convalescent patients who went back to their camps in an excellent state to infect mosquitoes, to join the ranks of many similarly infected persons who were already there.

About this time we had the first opportunity to test the value of plasmochin. A large series of hospital cases of malaria were placed on plasmochin treatment, and daily blood specimens were taken and examined. The dosage recommended by the manufacturers and sponsors of plasmochin was 9 to 12 centigrams daily for 6 days; and we began with that dose. All cases chosen had positive bloods on admission; and one series was given plasmochin alone, while another series was given plasmochin and quinine together.

The most interesting and important development was that in all the cases, in a series of over 100, gametocytes had entirely disappeared from the peripheral blood in 5 days; and in the majority of cases on or before the fourth day. Another notable finding was that, in cases of estivoautumnal infection, the ring forms did not disappear as quickly in those treated with plasmochin alone as in those patients treated with a combination of plasmochin and quinine.

I will not detail all the experimental work carried out; but when we had checked carefully more than 1,000 cases, we reached the following conclusions:

(1) Plasmochin had a much more powerful effect

in destroying the gametocytes of all forms of malaria than any treatment which we had known previously.

(2) Quinine was much more effective than plasmochin in the destruction of ring forms (trophozoites) of estivoautumnal malaria.

(3) The ideal treatment in all types of malarial infections was a combination of plasmochin and quinine. With this treatment, symptoms were rapidly controlled; the formation of gametocytes was effectively prevented; and already existing trophozoites and gametocytes were rapidly destroyed.

During the above experiments we found that a small percentage of the cases developed signs of toxicity, before completion of the prescribed course. The main symptoms were pain in the abdomen, cyanosis of lips and nails, and occasional nausea. Less than 5 per cent. of the patients developed this condition, and all recovered promptly when treatment was suspended. The dosage for adults had been 2 grams of quinine and 9 centigrams of plasmochin daily for 5 days. On account of the toxic symptoms which developed occasionally we felt that plasmochin, while a valuable aid in hospital treatment, could not be utilized as an aid in field work, in the dosage recommended.

We then undertook a series of treatments with 6 centigrams of plasmochin instead of 9, and checked results with daily blood slides.

It was very gratifying to find that the smaller dose was as efficacious as the larger. In a large series of cases it was noted that toxic symptoms were practically absent; and we felt justified in believing that we could safely utilize plasmochin, in these reduced doses, in our field work. * * *

We have learned from experience that malaria cannot be eradicated from large tracts of tropical low-lying lands, such as those occupied by the plantations of the United Fruit Company, with anti-mosquito measures alone. The treatment of the human carrier is a most important measure in any campaign for the reduction, and ultimate eradication, of malaria in a large and scattered community. * * *

Up to the present we have used in our work in Quirigua 1,388,000 tablets of plasmochin and feel justified in coming to the following conclusions concerning the use of plasmochin in malaria:

(1) Plasmochin effectively destroys the gametocytes of all forms of malaria when given in doses of 3 to 4 centigrams daily for one week.

(2) Combined with quinine, plasmochin is a safe and sure way of preventing formation of gametocytes during an acute attack of malaria; and the combination destroys all types of parasites.

(3) Toxic symptoms need not be feared when the dosage is limited to 3 centigrams daily for a week or more.

(4) We have ample clinical proof to justify advancing the hypothesis that plasmochin is of importance as a curative factor in chronic cases which

have resisted extended efforts at eradication with quinine and arsenical preparations.

(5) In the hands of a competent sanitarian, plasmochin is a valuable aid in reducing the incidence of mosquito infection, through the undoubted properties which it possesses of causing the devitalization and destruction of malarial gametocytes.

Drs. F. W. O'Connor and C. R. Hulse give a brief but stimulating summary of the treatment of 51 cases of amebiasis with anayodin:

For the treatment of amebiasis, due to infection with *Entamoeba histolytica*, three preparations are especially advocated at the present time. These are the double iodide of emetine and bismuth by mouth, emetine hydrochloride subcutaneously and yatren orally as well as rectally. The administration of any of these drugs has given satisfactory results in a high percentage of cases; nevertheless, a small proportion of infections prove refractory to treatment. Some patients cannot tolerate emetine while a few develop definite signs of emetine toxicity. Whereas patients will readily take yatren by mouth, some object to the rectal treatment. For these reasons it is difficult always to evaluate the effects of treatment with any of the compounds mentioned.

In 1928, the writer's attention was drawn to a preparation having the trade name, anayodin. The principal virtue claimed for anayodin is that it is an efficient amebicide. It is safe in that it causes no serious symptoms.

Each 4 grain anayodin pill contains 3 2/10 grains iodoxyquinolin sulphonic acid and 8/10 of a grain of sodium bicarbonate. The sodium bicarbonate is added merely to increase solubility.

Iodoxyquinolin sulphonic acid contains 28 per cent. of iodine, so in each pill there is 9/10 of a grain of iodine. This iodine is so firmly fixed that no trace of free iodine can be found in anayodin pills, powder or solution.

The pills are enteric coated to protect them from the gastric fluids and permit them to enter the small intestine unchanged.

TREATMENT

All the cases (51) with acute dysentery were treated in bed having first been put on liquid diet. The rest were advised to take soft diet during their treatment as out-patients.

The patient takes 4 pills of anayodin with meals, 3 times a day, making a total of 12 pills per day for 8 days. Therefore, at the end of treatment the patient will have taken 96 pills.

In all the cases except 2, drug treatment was not associated with any disagreeable symptoms. Two of the patients complained that diarrhea became more profuse. Since these 2 patients were being treated as out-patients they were advised to assume the recumbent position after which the diarrhea ceased.

RESULTS

In 49 of the 51 cases the patient made an uninterrupted and uneventful recovery and good health has been maintained. The stools have been microscopically controlled for over a year in most of the cases, 2 years in some, and never less than 6 months. No evidence of cysts or free forms of *Entamoeba histolytica* has been found since treatment in any of these cases.

CASES COMPLICATED BY LIVER ABSCESES

Two cases were complicated by liver abscesses. In one, a Chinaman, a diagnosis of liver abscess had been made and pus was evacuated before amoebae had been found in the stool after repeated examinations. While still in bed following operation, the patient had a typical attack of amebic dysentery and *Entamoebae histolytica* were found in the stool. The patient was treated with anayodin and made an uninterrupted recovery. He has been observed at intervals for two years without any return of symptoms, while amoebae have not again been found in the stools.

A second case, an Italian woman, resident for 35 years in New York City, was admitted to the hospital with signs of liver abscess. Examination of the stool revealed pre-cystic and cystic forms of *Entamoeba histolytica*. An open operation was performed and pus was evacuated from the liver. In the exudate from the walls of the abscess cavity motile *Entamoebae histolytica* were found in large numbers. Treatment with anayodin was then given and parasites rapidly disappeared from the stool. A few weeks later the patient developed signs of subphrenic abscess and at a second operation a large quantity of pus was evacuated and in the exudate from the walls of this abscess, motile amoebae containing red blood cells were also found. The abscess cavity was washed out with a 1 per cent. solution of emetine hydrochloride and the sinuses from both operations healed without further trouble. For more than a year this patient has remained free from symptoms and no parasites have been found on microscopical examination of the stools.

SUMMARY

(1) Fifty-one cases of amebiasis have been treated with anayodin.

(2) One case complicated by bacillary dysentery (Flexner Y type), admitted to the hospital in a prostrate condition, resulted in death.

(3) One case following treatment with anayodin relapsed. Following a second treatment with the same drug, this patient completely recovered.

(4) Forty-nine cases treated with anayodin remained free from symptoms and during a control period varying from 6 months as a minimum to 2 years no amoebae, free or encysted, have been found in the stools.

(5) Amebic abscess of the liver does not seem to be affected by anayodin given orally, which appears

to exercise a direct action on the parasites in the intestinal tract only.

(6) The present experience suggests that anayodin is an effective amebicide in cases of intestinal amebiasis.

(7) The administration of the drug is attended by no unpleasant symptoms as a rule.

Dr. Wilhelm Cordes, working at Preston, Cuba, writes a short but comprehensive paper on the clinical importance of hookworm infestation. He says in part:

Hookworm disease is a relative term. Not only do the two varieties, *Ankylostomum duodenale* and *Necator americanus*, differ in their intoxicating effect upon the human carrier; but, also, the absolute number of parasites present in the gastrointestinal tract is of utmost importance. Furthermore, since hookworm infestation is most prevalent among the poor, it is often associated with other debilitating diseases and malnutrition. * * *

Manson-Bahr sums up the situation poignantly: "Many inhabitants of tropical and subtropical countries are in a state of chronic starvation. Living on coarse, bulky, unnutritious food, they are prone to dilation of the stomach and dyspeptic troubles. In such, any additional cause of malnutrition, as a swarm of ankylostomes, and a daily though perhaps small loss of blood, may be sufficient to turn the scale against them. In those countries, as elsewhere, there are many who live just on the borderland between health and disease; to such the ankylostome may prove the last straw that breaks the camel's back." Also Schapiro reaches the conclusion that faulty nutrition is the anemia-controlling factor among the hookworm-infested Indians of Panama.

He stresses the importance of the "Stoll count," the technique of which is given as follows:

4 c.c. of stool are added to 56 c.c. of 1/10 normal sodium hydroxide solution in a special graduated flask. The mixture is vigorously shaken with glass beads to obtain an even suspension of the fecal matter. 0.075 c.c. of the suspension is pipetted on a large slide with a lining of sq. mms. which is covered with a large cover-slip. All eggs present are counted with low power. The total number of eggs from two consecutive counts is multiplied by 100, which gives approximately the number of eggs in 1 gram of stool. If the fecal matter is soft or nearly liquid, a higher multiplier (150-200) must be used, so as to calculate the number of eggs on the basis of formed stool.

Only when the count indicated more than 10,000 eggs was there evidence of hookworm disease with its pathognomonic features. In 3 cases, symptoms were severe. The highest number of eggs encountered in 1 c.c. of stool was 36,500, accompanied by a hemoglobin content of 23; and the first specific treatment of this patient with oleum chenopodii yielded 856 necator worms in the dejection.

CONCLUSIONS

Hookworm incidence in the Preston Division is probably less than 10 per cent. of the laboring class and the great majority of these carriers show no symptoms. Patients showing 2,000 to 10,000 eggs require attention and specific treatment. To paraphrase Manson-Bahr's metaphor: hookworm may be the straw that breaks the camel's back, but yet, it remains a straw. Far more important is it to relieve the patient from his other burden—*i. e.*, to teach him the measures for the prevention of hookworm infestation and the principles of a well-balanced diet.

Dr. B. M. Phelps, in Puerto Castilla, Honduras, gives some interesting statistics on lobar pneumonia in a tropical country.

The author has made a survey of the cases of lobar pneumonia treated during the current year to note (a) fluctuation in the total number of cases treated; (b) the influence, if any, of temperature and rainfall, sex and nativity; and (c) the methods of treatment used, especially in reference to the use of digitalis. There were some changes on the medical staff and the cases surveyed occurred on the services of 3 different physicians.

The average number of persons dependent on the hospital for treatment was 8,935; this being an increase of 941 persons over 1929. The only 2 patients coming from outside towns, the population of which was not included in our census, died.

The total rainfall in 1930 was 9.17 inches less than in 1929. The mean temperature for 1930 was 2.0° F. less than in 1929. As usual, there is no demonstrable relationship between the incidence of lobar pneumonia and the changes in the seasons of the year which, in this climate, involve comparatively slight variations in the temperature, but often marked differences in the quantity of rainfall.

Comparison of Mortality Rates by Years			
Year	Cases	Deaths	%
1921	31	8	25.80
1922	60	39	65.00
1923	97	52	53.61
1924	101	43	42.59
1925	100	30	30.00
1926	63	23	36.50
1927	55	21	38.18
1928	76	30	39.47
1929	89	17	19.10
1930	56	16	28.57

Cases by Nativity

	Honduras	Jamaica	Salvador	Guatemala	Nicaragua	Total
Cases	43	1	6	1	5	56
Deaths	10	0	2	0	4	16

	Cases by Sex		Total
	Male	Female	
Cases	47	9	56
Deaths	12	4	16
Per cent.	25.52	44.44	28.57

As will be noted, no cases of lobar pneumonia occurred among individuals coming from the temperate zone. This is quite striking when it is considered that many of our European and American employees are as much exposed to exertion and the elements as the natives who contracted the disease.

Treatment administered was usually symptomatic. It is interesting to note, in line with the work of Wyckoff, DuBois and Woodruff, that 28 patients received digitalis during the course of their treatment, of whom 7 died; and 28 patients received no digitalis, 9 dying. No effort was made to treat cases of similar gravity with and without digitalis, and no cases of auricular fibrillation were registered in this series.

Intravenous mercurochrome was used in 7 cases only. Single doses were given to 6 cases as early as the second day and as late as the eleventh day; and all of these cases recovered. The 7th case was given mercurochrome on the 7th and 11th day, but died on the 36th day with complications of septicemia and nephritis.

Many other diseases are considered, but are not mentioned in this abstract. In closing the editor cannot refrain from transcribing a most interesting paper by Dr. Jose A. Lopez, of Puerto Castilla, Honduras, giving as it does an exceedingly vivid picture of the type of individual that the doctor has to deal with in Central America. The title is

THE LOWER CLASS OF TROPICAL AMERICAN PATIENTS

In writing this, I am thinking of the pure Indian and of the mestizos; but intentionally overlooking the Mosquito Indian with his strong dash of negroid blood, and that steady but powerful and ever-increasing colored wave coming from the West Indies and other sources of negro blood.

Let the first mentioned individuals drift across your mind as a parade of sadness and disease—of short stature, lemon-colored skins, high cheek bones, and with soft brown eyes possessing a Mongolian slant. Their hair is black, straight, and coarse like a horse's mane. Sexually, the syndrome of Frohlich minus the adiposity exists. The insidious laziness is induced by impoverished blood, where the plasmodia of malaria have been playing havoc. Their sense of responsibility is nil. The future is something intangible and non-existent.

Their mental age is that of a moron. Egocentricity characterizes them. Their sensual pleasures must always come first. Like all children, they are cruel. When sober, they take delight in inflicting slight tortures. When alcohol has abolished their inhibitions (which are extremely scant), they indulge in an

extreme form of sadism under the slightest provocation.

The love life of our patients is extremely easy and simplified, as some believe love was meant to be. Companionate marriage advocates in the United States should come down to the American tropics to get post-graduate courses in their pet hobby. When a man brings home a wife, he will also bring and take care of those children resulting from her former love enterprises. If a woman sees another "mozo" who looks better to her than her present lord, she promptly packs up her few belongings, gathers her progeny and quickly departs. The more generous type of man will usually let his woman take along with her the few cooking utensils or the portable victrola they had jointly owned.

The third available means of escape is alcohol; and, as said before, that is when the sadism is plainly shown. Drinking is usually done around the time of the monthly payday. That is the occasion when all past grudges are settled. The chief weapon is the machete; and seldom will you see a single cut inflicted, even if the first one was fatal in itself. Usually they number up to 6, 10 or 15. Frequently, the brains are exposed and limbs are amputated. There are no regrets, and no pangs of conscience. Escape to the mountains is easy, once the destructive emotion has been satisfied.

Modern doctors make a poor showing with these people. Imbedded deeply within their virgin minds there lingers the spectacular, feather-crowned, awe-inspiring ghost of their former medicine men. As we go around their camps in our mud-covered clothes, we look too much like an average human and too little like a god. We pour pills out of a glass vial, in a matter-of-fact manner. They never see us on all fours, searching around for mysterious herbs; we do not roam the forests at night, hunting for an elusive animal in order to prepare a powerful potion out of its entrails; we never order our medicines to be taken only on Friday night after midnight when the moon is shining out in the skies.

The stethoscope is our only instrument of magic. With it, we are able to "listen in" to all kinds of maladies. Once, when I was dressing a wound, the patient begged: "But, doctor, why don't you sound me?"

When working in the different plantation camps, the great problem is to make them understand the importance of quinine therapy. There is positively a quinine-phobia. Malaria with its varied and insidious symptomatology baffles them. They may admit that quinine stops their fever; but when the clinical picture changes, and the fever is so slight as to be scarcely noticed, then they will fight anyone who may endeavor to administer the drug to them. In many cases, when they come to a physician to seek relief from a certain symptom due to plasmodium infestation, if he produces some quinine tablets he is in great danger of life and limb. When they

make up their minds to have their fevers treated they always believe that the drug used in the hospital has some special curative power not possessed by the same drug when it is given to them at their camps.

When this type of patient comes into the hospital, they are usually less pugnacious than they are at home. Nearly all their boisterousness is gone, and they resort again to their fatalistic attitude of mind. Strict diets are something they hate. They cannot understand why you should not eat if you are hungry, no matter if your intestines are badly ulcerated. If a patient is dying and you start to give some hypodermic stimulation, they often take it for granted that you are giving him the final push to accelerate his departure from this world.

This report of the United Fruit Company is a valuable addition to any medical library. I am sure that the Medical Director, Pier 3, North River, New York City will, be glad to send a copy to anyone requesting it. Problems are presented that we, in this land, do not meet at all, or else but very rarely. The report, however, enlarges our view of medicine as a whole; it enables us to look, as it were, into distant lands and thus, by visualization of what some of our colleagues are doing, to "catch the larger vision."

Miscellany

SKETCH OF TULANE'S SCHOOL OF MEDICINE

The School of Medicine was organized in September, 1834, as the Medical College of Louisiana. The first session was begun in January, 1835, with 11 students, charter granted April 2, 1835, and in March, 1836, were issued here the first degrees in medicine or in science ever conferred either in Louisiana or in the Southwest. On October 20, 1838, a course in Pharmacy was established, and in 1839, the first Master of Pharmacy degree was conferred.

The Constitutional Convention of 1845 ordained the University of Louisiana, and adopted the Medical College of Louisiana as its Medical Department. It was not until 1847, however, that the University of Louisiana was organized by the Legislature.

In 1884, the Board of Administrators of the Tulane Educational Fund received from the Legislature complete and perpetual control of the University of Louisiana. This Act was ratified at a general election in April, 1888, and was later ratified in the Constitu-

tions of 1898 and of 1921.

Beginning with the session of 1913-1914, the name of the Medical Department was changed to the College of Medicine, which embraced the School of Medicine, the School of Pharmacy, the Graduate School of Medicine, and the School of Dentistry. The School of Medicine is the oldest medical college in the Southwest and has the greatest number of Alumni. To June, 1930, there have been graduated 5932 Doctors of Medicine.

In 1891, Mrs. Ida A. Richardson, whose husband, Dr. T. G. Richardson, had been for many years associated with the Medical Department as Professor and as Dean, donated \$140,000 to the University for the benefit of the School of Medicine. At her death in 1910, Mrs. Richardson showed her continued deep interest in the School by a bequest of \$25,000.

At his death, in 1894, Dr. Albert B. Miles, Professor of Surgery, bequeathed to the Medical Department the sum of \$10,000. This sum was used to equip the Miles Laboratory of Operative Surgery and helped in the establishment of the Miles Amphitheatre at the Charity Hospital, largely used for the benefit of medical students. Other much needed improvements at that time in the Medical Department were assisted through the generous bequest of Dr. Miles.

In 1902, Mr. Alexander Charles Hutchinson, of New Orleans, bequeathed to the Administrators of the University, for improvements in the laboratory and clinical facilities of the School of Medicine, funds aggregating \$746,000.

In 1916, Colonel William G. Vincent, of New Orleans, bequeathed \$60,000 to the Medical Department of the University for the purpose of establishing a Chair of Tropical Diseases and Hygiene. This legacy was subject to the life usufruct of Mrs. Vincent, who died June 11, 1924.

In 1917, among other gifts to the University, Mrs. Benjamin Morgan Harrod, of New Orleans, bequeathed to the Medical Department in memory of her husband, the sum of \$5,000 for the investigation and cure of cancer.

In 1921, the General Education Board and the Carnegie Corporation of New York each contributed the sum of \$25,000 toward the running expenses of this School for the session of 1920-21. Later, following the campaign of

the University for additional endowment, in 1920, the General Education Board donated the sum of \$125,000 towards the erection and equipment of a building which would provide additional laboratory and teaching facilities for the pre-clinical subjects. The General Education Board and the Carnegie Corporation of New York agreed, pending the completion of certain contracts with the University, to jointly contribute toward the support of the School \$77,500 each year, this sum representing the interest on \$1,550,000.

In fulfillment of these pledges, the Carnegie Corporation of New York in 1923 paid to the University for the endowment of the School of Medicine the sum of \$837,500.00, and in 1927 the General Education Board paid to the University for the endowment of the School of Medicine the sum of \$712,500.00.

In 1925, the General Education Board agreed to give \$15,000 a year for a period of five years, later extended to six years, towards the support of the Department of Medicine and, in 1926, to give \$30,000 a year for a period of five years towards the support of the Department of Surgery.

On July 10th, 1922, the Board of Administrators of the Tulane Educational Fund received from Mr. and Mrs. Leon E. Schwartz, of New Orleans, a donation to the School of Medicine of \$20,000 for the purpose of establishing a permanent trust fund, the interest on the fund to be devoted entirely to research work and fellowship purposes in the School of Medicine. From year to year up to the present time, various sums have been contributed by Mr. and Mrs. Leon E. Schwartz, Mr. and Mrs. Edgar Newman, and Mr. Herbert J. Schwartz towards increasing the original donation.

The School of Medicine received the sum of \$500, anonymously given, for the furtherance of the investigation of leprosy, and several sums of money were given by Mrs. Isidore Newman for research in the Department of Pathology.

On February 11th, 1924, the Board of Administrators of the Tulane Educational Fund ratified the action of the President of the University in accepting the donation of \$12,000 by Mrs. Maurice Stern, the income from this fund to be used for the purchase of medical periodicals and books for the Library of the School of Medicine.

In 1925, the School of Medicine received, through an anonymous donor, the sum of \$1,500 to establish the "Dr. E. S. Lewis Student Loan Fund," in recognition of the eminent services of Dr. Ernest S. Lewis to the School of Medicine and to the medical profession. This fund has been increased by a contribution from the graduating class of 1930.

In 1925, the nucleus of a fund for the "Isadore Dyer Memorial Prize for Medical Scholarship" was started by contributions from some of the graduates during the incumbency of the late Dr. Dyer, former Dean of the School of Medicine. The amount subscribed to date is a little over \$700 and it is earnestly hoped by those concerned in this movement that others may contribute to this worthy cause.

In 1925, the Junior League of New Orleans agreed to donate an amount not exceeding \$4,000 annually, for the purpose of establishing a model obstetrical clinic and to provide for two fellowships in Obstetrics and one in Pediatrics, to be offered to graduate students, the fellowships to be known as the Junior League fellowships. This was later reduced to \$2,400 annually for the support of one fellowship in Obstetrics and one in Pediatrics.

During 1925 and 1926, certain philanthropists in New Orleans, who were interested in the development of a strong Department of Tropical Medicine at Tulane, agreed to give, during a 3-year period, an amount sufficient, in addition to the income from the Vincent bequest, to bring the annual income for the Department of Tropical Medicine to \$25,000. Some of these donors are still continuing substantial donations in support of this department.

In 1926, the School of Medicine acquired through the will of Dr. Marcus Feingold, Professor of Ophthalmology, his valuable ophthalmologic library. The faculty, mindful of this great and rare legacy, treasures this gift as one of its most highly prized possessions, to be preserved and perpetuated in all its usefulness as a special division of the library of the School of Medicine, where it is now known as the "Feingold Collection," as an inspiration of the abiding spirit of the donor.

Ephedrine, procaine, or atropine can cause dermatitis.

IMPORTANT CHANGES IN THE STATE BOARD OF HEALTH ORGANIZATION

Since Dr. James M. Parrott became State Health Officer on July 1st two important changes have been made in the staff of that organization. Dr. H. A. Taylor, who has been director of the Bureaus of Epidemiology and County Health Work, resigned, effective September 1st. His resignation was accepted, and Dr. John H. Hamilton, director of the Consolidated Board of Health of Wilmington and New Hanover County, has accepted the vacancy made by Dr. Taylor's resignation. Dr. Hamilton assumed his duties as director of these bureaus on the first of September.

Doctor Hamilton is particularly well qualified to perform the duties he has assumed. He has an unusually fine cultural background and educational training. He is a man of broad experience in public health work, and by reason of his experience as a teacher of Science and Chemistry in the State College of Pennsylvania in the Department of Animal Nutrition he had excellent preparation for the study of medicine. This work there followed his graduation, where he took the B.S. degree, specializing in Chemistry and Bacteriology. Dr. Hamilton resigned from that position to begin the study of medicine in Harvard Medical School, from which institution he was graduated in 1916. Immediately thereafter he became Assistant Bacteriologist in the New York State Department of Health and Instructor in Public Health at Albany Medical College. Later he served as Epidemiologist and Instructor of Preventive Medicine in Iowa State University. Following that service he was connected for a while with the International Health Board, from which service he was transferred to North Carolina, becoming Health Officer of Wilmington and New Hanover County in 1920. While in the foregoing service, before accepting his Wilmington appointment, he served as Assistant State Director in the Kentucky Health Department, organizing whole-time health departments in that state and training health officers. He has filled the position of Health Officer of Wilmington and New Hanover County since 1920 with marked success, and has become known throughout the country for his excellent work in that good city. He is a member of the American Medical Association, the American Public Health Association,

and the Medical Society of the State of North Carolina. Dr. Hamilton has written many papers on scientific questions, some of which have been published in the *Health Bulletin*. He is 43 years old and is a scholar and gentleman of the highest type.

On July 20th Mr. Warren H. Booker of Charlotte resumed, after an interval of 12 years in private practice of his profession following a year's service on the International Health Board in war work in France, his duties as Chief Engineer of the North Carolina State Board of Health. Mr. Booker is a graduate of the Ohio State University, class of 1908. He received a degree in Civil Engineering and specialized in Sanitary Engineering. Immediately following his graduation from college he served one year as Assistant Engineer of the Ohio State Board of Health. He voluntarily left that service to enter the employ of the Standard Oil Company and for two years was an engineer for that organization. He resigned that work in 1911 to accept the position of Chief Engineer of the North Carolina State Board of Health. He remained constantly in the service of the State Board of Health work, where he assisted in the gradual organization and development of the Board work, until 1918, a period of more than seven years, when he secured a leave of absence to join the International Health Board staff in special war work among the civilian population of France. He rendered valuable service during his year's leave in France; upon his return to the State he established an office in Charlotte and entered the private practice of his profession of Consulting Engineer. In that capacity he has obtained broad experience in the installation of water and sewer systems in many towns and cities of this and surrounding States. During Mr. Booker's former association with the State Board of Health work he proved himself to be an indefatigable worker and established himself in the confidence of a large number of people of the State, not only in his own profession but among the physicians and others with whom he came in contact. Mr. Booker is 49 years old and by reason of his splendid qualities and experience he should be eminently successful in his work with the State Board of Health.

The people of North Carolina are extremely fortunate in obtaining two such men as Dr.

Hamilton and Mr. Booker to fill such important places.

NEWS ITEMS

(Dr. Jas. K. Hall, Richmond and Dr. L. B. McBrayer, Southern Pines contribute regularly)

ADAM TYREE FINCH, DOCTOR, OFFICER,
COMMANDANT, HOSPITAL ORGANIZER,
EDUCATOR

Dr. Adam Tyree Finch, Chase City, Va., (University of Va. 1896), new Virginia American Legion Commander, has had a remarkable military experience.

He was appointed commandant of cadets, professor of military science and tactics at the Virginia Polytechnic Institute during the Spanish-American war, after the regular U. S. army officer who served this appointment had been called to the front. He held this position until 1901, when the army officer returned to this position.

In 1903, Dr. Finch organized at Chase City the Mecklenburg Guards, of the Virginia National Guard, serving as the captain of this company until the Second regiment was formed in 1905, at which time he was appointed major, medical corps, Virginia National Guard, and was assigned to the Virginia Second infantry.

Dr. Finch served in 1916 and 1917 on the Mexican border. At Camp McClellan, he was assigned to organize a medical department of the 110th Field Artillery and placed in command, serving in France as surgeon of the regiment, a part of the Twenty-ninth division, until November, 1918, at which time he was assigned to the Base Hospital No. 115, at Vichy, France.

When the hospital was closed, he was assigned to Headquarters hospital center at A. P. O. 731, serving until April, 1919. He was then sent to the United States and served as commanding officer of the convalescent hospital at Camp Lee, Virginia, until July, 1919, at which time he was made senior medical instructor to the R. O. T. C. camp at Camp Lee.

He appeared before the veterans' congressional committee in 1930 and 1931, and rendered efficient aid in securing for the State of Virginia the Veterans' Hospital.

Dr. Finch has served his community as a member of the town council for six years,

during which time he was chairman of the water, light and sewerage committee, installing and putting into operation civic town improvements which cost \$65,000. He organized and managed for the past ten years the Chase City Hospital, and has served as president of the Mecklenburg County Board of Education.

PHYSICIANS SEW UP EACH OTHER

When tire trouble developed on the front wheel of their automobile and the driver lost control and allowed the machine to dash into a tree, Dr. W. T. Harris and Dr. Harvey L. Griffin, both of Troy, found it necessary to render each other professional services.

Dr. Harris was driving the car. His right arm was broken and his right shoulder dislocated. He also received a laceration on his left arm that required five stitches to close. The two men walked to Dr. Griffin's office, two miles away, and sewed up each others' wounds.

DR. J. W. R. NORTON has succeeded DR. H. LEE LARGE as head of the Rocky Mount (N. C.) Health Department. Dr. Norton is a native of Scotland County; an A.B. Duke University, where he took active part in literary society work, assisted with college publications, was vice-president of his class; was second lieutenant of field artillery at Camp Taylor in 1918; following completion of the first year's work in the Duke Law School was High School Principal and Athletic Coach for three years. His first two years in medicine were at Chapel Hill, the final two at Vanderbilt. Dr. Norton has had 14 months at the Central State Hospital, Nashville, and a year's rotating internship at the Henry Ford Hospital, Detroit, then 10 months on the medical staff of the last-named hospital, finally a year in charge of the Department of Internal Medicine of the Holt-Krock Clinic, Fort Smith, Arkansas.

DR. WILLIAM J. CAMPBELL, noted bibliophile and dean of Philadelphia book sellers, died Sept. 4th at his home in Germantown after a year's illness. He was in his eighty-second year. Dr. Campbell celebrated his eightieth birthday by retiring from the book business founded in 1850 by his father, John

Campbell, and turning it over to his son, John J. Campbell. In 1871 Dr. Campbell was graduated from the Medical School of the University of Pennsylvania. Later he received the degree of Doctor of Philosophy from the same institution. His medical career was diverted by the failing health of his father, who had come here from England after establishing book stores in Manchester and London. The son, after being taken in as a member of his father's firm, began not only to buy and sell books, but also to collect them. His principal collections consist of American first editions, and also of Jeffersoniana, including books and prints, as well as lithographic portraits by Albert Newsom. His Newsom collection is described as the largest and finest of its kind in existence. Dr. Campbell was the author of the standard reference work on the issues of the City History Society for many years, a life member of the Historical Society of Pennsylvania, a director of the Germantown Historical Society, and for twelve years a director of the Mercantile Library and chairman of its book committee. He was a founder of the American Catholic Historical Society and was active in the Catholic total abstinence movement.

DR. CHARLES ROBERSON, 59, for 32 years a prominent physician of Greensboro, died at his home September 3rd, following a long period of illness. He was a native of Orange county and a graduate of Long Island College of Medicine, '97.

DR. J. RAINEY PARKER, Med. Col. of Va. '01, formerly surgeon-in-charge the Rainey Hospital, Burlington, N. C., is now in charge of the Department of Surgery and Gynecology of the Don Sawyer Memorial Hospital, Eureka Springs, Arkansas.

DR. A. S. ROOT, Raleigh, addressed the Johnston County Medical Society held at Harrison's lake near Princeton.

The society was given a barbecue entertainment by the physicians of Princeton, Dr. R. S. Stevens, Dr. F. M. Aycock and Dr. B. L. Aycock.

Dr. Root's subject was Essential Food Vitamins.

DR. JOHN D. KERR (Maryland '08), who has served as health officer in Sampson county since January, 1927, tendered his resignation recently and will open an office in Clinton for the practice of medicine. No reason has been given for the resignation, other than the fact that the salary was reduced recently to \$3,350 the year.

DR. JAMES MILLER, native of New Market, Va., and member of a family identified with the medical profession since Colonial days, has been made resident physician of Winchester Memorial Hospital. He is a graduate of Johns Hopkins Medical School, Baltimore, and for several years has been associated with Dr. J. B. Deaver.

DR. DONNELL D. COBB, of the staff of the Goldsboro Hospital, is in charge of Spicer Sanatorium in the absence of the superintendent, Dr. William Spicer, who is ill in a hospital in Charlotte.

DR. BEVERLEY R. TUCKER, Richmond, attended the meeting of the International Neurological Congress at Berne, Switzerland, August 31st-September 4th.

DR. E. D. MOORE has opened offices at 102½ N. Tryon St., Charlotte, for the general practice of Dentistry.

DR. IVAN P. BATTLE and DR. M. R. BRASWELL, of Rocky Mount, sailed for Europe on the "Bremen" on September 7th.

DR. THOMAS W. MURRELL and family, of Richmond, have returned home from a lengthy stay in England and on The Continent.

DR. G. W. BROWN, superintendent of the Eastern State Hospital at Williamsburg, Va., is spending several weeks in Europe.

DR. W. P. DEY, Tulane '09, is now stationed at Charlotte as medical examiner for the Carolinas and Virginia for the U. S. Navy and Marine Corps.

DR. J. ALLISON HODGES and Mrs. Hodges have returned to their home in Richmond

from their summer home at Montreat, North Carolina.

DR. EMORY HILL and MRS. HILL, of Richmond, recently spent a brief vacation in Bermuda and Halifax.

DR. THOMAS D. MOORE, of Memphis, was a recent visitor to the Crowel Clinic, Charlotte. DR. A. J. CROWELL gave a supper in his honor the evening of the 9th of September.

MARRIED

Dr. James William Rose, Pikeville, N. C., and Miss Delphia Maude Dunn, Tarboro.

McILHENNY ADDRESSES BUNCOMBE SOCIETY

Dr. Paul A. McIlhenny, Professor of Orthopedic Surgery at Tulane, addressed the Buncombe County Medical Society August 3rd on Arthritis. He mentioned the use of chaulmoogra oil (long used in cases of leprosy) in the treatment of some cases of arthritis.

THE FOURTH DISTRICT (N. C.) MEDICAL SOCIETY met in Wilson August 11th and had two speakers—Dr. C. T. Smith, Rocky Mount, on Thrombocytopenic Purpura, and Dr. Sidney Smith, Raleigh, on Pyelonephritis. Good meeting—50 present. Dr. A. G. Woodward of Goldsboro presided in absence of Dr. P. P. Lane, president. Next meeting at Rocky Mount, in November.

GUILFORD COUNTY MEDICAL SOCIETY is actively working toward the establishment of an adequate medical library.

The program at the latest meeting of the staff of STERNBERGER CHILDREN'S HOSPITAL was featured by a discussion by Dr. Wiley Forbus, professor of Pathology in the Duke University Medical School.

Cretinism was the subject and the discussion was general. Dr. W. F. Cole, president of the staff, presided at this session, which was attended by 37 physicians. The clinical discussion was led by Dr. Samuel F. Ravenel. Dr. Forbus' associates, Dr. Rigdon and Dr. M. O. Oates, also were in attendance.

High point physicians in attendance included Dr. H. B. Hiatt, president of the Guil-

ford County Medical Society; Dr. F. R. Taylor, Dr. H. L. Brockmann, Dr. S. S. Saunders and Dr. Kenneth Geddie.

THE NORTH CAROLINA BOARD OF NURSE EXAMINERS will give examinations three days next month, October 27th, 28th and 29th, at the House of Representatives in Raleigh, according to announcement by Mrs. Z. V. Conyers, secretary of the board.

All applications must be filed with the secretary by October 16th, and may be addressed to Mrs. Conyers, Box 3107, Greensboro.

At the regular meeting of the MECKLENBURG COUNTY (N. C.) MEDICAL SOCIETY, August 18th, Mrs. G. D. McGregor, J. W. Gibbon, Andrew Blair and R. F. Leinbach presented case reports and the Chairman of the Committee on Coördination of Medical Activities, Dr. R. W. McKay, presented its final report. This committee, appointed at the March 3rd meeting, has worked out plans and enlisted the interest of two-thirds of the members of the Society, by which the medical library with whole-time librarian will be maintained, a medical credit bureau conducted and facilities provided by which doctors can have continuous telephone service. Provision is made by which the doctors of our Seventh District will be supplied, on request, abstracts of the recent literature on subjects which may be especially interesting to them at the time in the way of difficult cases under treatment, the preparation of papers, or otherwise.

Our Medical Schools

MEDICAL COLLEGE OF VIRGINIA

The college will open September 15th with an enrollment of approximately 800 in the four schools of medicine, dentistry, pharmacy and nursing. Classes will begin the 16th.

Fundamental health services, as performed by the college through its hospitals and clinics, increased from a total of 55,866 in 1928-29 to 67,888 in 1929-30 and to 76,556 in 1930-31, as shown in the report for the fiscal year closing July 1st, 1931. Fundamental health services include hospital admissions, home obstetrical deliveries, emergency room treatments in hospitals, and visits for treat-

ment to the outpatient department, to the dental infirmary, children's dental clinic and hospital dental cases.

Of these services performed during the last fiscal year, 42,123 were visits by the walking sick to the outpatient department, 7,971 were hospital cases who received a total of 106,986 days' treatment, 75,086 were hospital emergency room treatments, 298 were home obstetrical deliveries, 14,193 were visits by patients to the dental infirmary, 2,449 were visits by children to their dental clinic and 1,936 were hospital dental cases. It is interesting to note that 21,236 prescriptions were filled for the patients during the past year, and that there were thousands of laboratory examinations made and 3,824 surgical operations were performed in the college hospitals.

One of the most significant increases in the services performed is found in the number of emergency room treatments given to patients who were not admitted to the hospitals for bed-care but were treated in the emergency room and allowed to go home. In 1928-29, 3,064 such treatments were given. They increased in 1929-30 to 6,688 and last year to 7,586.

DUKE

On July 2nd Dr. Alfred R. Shands, jr., held the orthopedic clinic, known as the Rotary Crippled Children's Clinic, at Park View Hospital, Rocky Mount, N. C., at which the initial examinations were made of the children and advice given regarding treatment. Every third Thursday Dr. Shands holds an orthopedic clinic at Goldsboro, N. C.

On July 6th Dr. Christopher Johnston read a paper on the Complications of Diabetes at a meeting of the Gaston County Medical Society, Gastonia, N. C.

In October, 1931, for the first time, all four classes of students will be enrolled in the medical school, with 60 in the first year class, 49 in the second, 18 in the junior and 15 in the senior class, making a total of 145 students. The 78 students admitted in 1931 are from 53 different colleges and universities; 41 are from North Carolina and the remainder from 22 other States. The first class will be graduated in June, 1932.

A chapter of Alpha Omega Alpha, honorary medical fraternity, was established here

on April 29th, 1931.

Thirty-five students were admitted to the School of Nursing on January 2nd, 1931, and, after a rigid probationary period, 15 were retained as intermediate students. The School of Nursing has been visited and inspected by Miss Nina D. Gage, executive secretary of the National League of Nursing Education, Miss Dorothy Deming, Public Health Nurses Association, and Miss Mary M. Roberts, editor of *The American Journal of Nursing*.

Four students have been admitted to the School of Dietetics. One has completed her year's course of training.

The prerequisites of 3½ years of college work in the field of nutrition in an accepted university have been approved by the Educational Section of the American Dietetic Association.

I have been able from time to time to make a study of beef from the calf on up through the beef market to his death, and it has been my opinion from the start, that is—from since the war, that too many people crave round stakes and t-bones instead of the cheap cuts which comes from around the summick and near the nake of the sed cow before the grissell sets in and my advice to my friends who can't meet all of their installments as they fall due is to swap from these high priced chunks to the 11c and 12c pieces of which I always have a plenty left after selling the so-called "high livers" that are also broke.—*Gee McGee*.

Namin' It an' Curin' It

For the past few weeks, I have been kinder "under the weather," or as a rich man would say—"some-what indisposed," or as a society woman would say—"terribly ill," or as a gentleman of color would say—"powerful sick," or as Farmer Jones would say—"sorter poley," but I am feeling somewhat better today.

Just as soon as I realized that I could not comfortably work 14 hours a day, I made a dive for my favorite doctor; he told me it was over-work. He said "mountains or seashore for a month or so" and my wife agreed with him. I told the cashier of my bank what he said, but he insisted that I'd be all right in a few days at home.—*Gee McGee*.

Regardless of the urgency of a professional call the physician in response thereto, has no legal right, in so doing to violate any traffic or other law, or to thereby place in jeopardy the lives or safety of others. Not even ambulances have that right.

Competent medical service includes, whenever possible, the duty of making the patient comfortable, either physically or mentally, or both.—*Medical Jurisprudence*, SCHEFFEL, 1931.

CHUCKLES

A man who had been waiting patiently in the postoffice could not attract the attention of either of the girls behind the counter.

"The evening cloak," explained one of the girls to her companion, "was a redingote design in gorgeous brocade with fox fur and wide pagoda-sleeves."

At this point the long-suffering customer broke in with: "I wonder if you could provide me with a neat red stamp with a dinky perforated hem, the *tout ensemble* delicately treated on the reverse with gum arabic? Something for about two cents."—*Western Hospital Review*.

"Zoup, sir? Zoup? Zoup?"

"I don't know what you're talking about."

"You know 'ash? Well, zoup is looser."—*Ohio State Sun Dial*.

As to plastic surgery, isn't there some way to transfer bone from a statesman's head to his back?—*Brooklyn Times*.

Just Call Your Shots

Golfer (to members ahead): "Pardon, but you mind if I played through? I've just heard that my wife has been taken seriously ill."—*Exchange*.

"And when it rained forty days and forty nights, what happened then?"

"The natives said it was very unusual."

When you married him you promised to share his lot, didn't you?

Yes, but I didn't know then it was just a lot of trouble.

Fritz Dumknot had been injured in an accident and was suing for damages. The judge was asking him a few questions. "And," said His Honor, "can't you get along without crutches?"

"Mein doctor says I can," replied Fritz, "but mein lawyer, he says I can't."

"How come you sharpenin' 'at razor?"

"Woman, they's a pair o' gemmuns shoes undeh you bed. If they ain't no niggah IN them shoes—Ah'm gonna shave!"

Mistress—I must get a griller for the kitchen when I'm down town. You know what a griller is?

Green Girl (with recollections of the Zoo)—Indeed I do. It's a long hairy monkey the size of a man and if you want one of those in your kitchen I'm leaving.

Can you imagine an experience more disquieting than to wake up and hear burglars singing in the cellar?

"Well, Aaron," said the judge, "so you and your wife have been fighting again. Liquor, I suppose?"

"Naw, suh, Jedge! you do' know dat 'oman. Dey ain't nobody never licked 'er yet. Ah done give up speckin' dat; but once in a while a man's jus nachelly boun' ter 'sert hisself."

So Fussalot has lost all his money, has he? Did he take his misfortune like a man?

Precisely. He blamed it all on his wife.

And the Pot Licked

"Did you rescue your poor friend who was captured by cannibals?"

"No, unfortunately, when I arrived, he had already been scratched off the menu."—Hamburg *Hummel*.

A young ducky was calling on his girl. Every few seconds he would rock himself to and fro, and occasionally give himself a sudden twist to the right or the left.

"You ain't sick, is you, Chester?" she finally asked him.

"No, I'se pufflicky all right," Chester cheerfully assured her.

"Then what for do you keep rockin' yourself and twistin' around?" she demanded.

Her admirer explained: "You know Ike Blott? Well, he sold me dis watch, cheap, an' if I don keep movin' it'll stop on me."

Yah! Pharisee!

The convention was coming to order and there were some evidences that it would be a contentious one.

"We will open the meeting with prayer," the chair started to announce, "and I will call upon Rev. Mr. Jorkins—"

Whereupon a delegate interrupted.

"Mr. Chairman," he said, "I propose that we postpone that part of the exercises until the close when we will know better what members of this crowd need praying for most."—*Portland Express*.

"I saw the doctor you told me to see."

"Did you tell him I sent you?"

"Yes, I did."

"What did he say?"

"He asked me to pay in advance."

"You know, Geoffrey, Norma is nearly 17 years old, so today I had a frank discussion with her about the facts of life."

"Ah! Did you learn anything new?"—*Everybody's*.

BOOK REVIEWS

THE PREVENTION OF DISEASE IN THE COMMUNITY, by CURTIS M. HILLARD, Professor of Biology and Health, Simmons College, Boston, Health Supervisor, Wellesley and Weston, Mass. 1st edition. *McGraw-Hill Book Co., Inc.*, New York and London, 1931. \$1.75.

A book for the layman, remarkable for its choice of features to be discussed and for the concise clear presentation of them. We do not recall having seen so valuable a book in this field.

THE MIND AT MISCHIEF: Tricks and Deceptions of the Subconscious and How to Cope with Them, by WILLIAM S. SADLER, M.D., F.A.C.S., Formerly Professor at the Post-Graduate Medical School of Chicago; Senior Attending Surgeon to Columbus Hospital; Director of the Chicago Institute of Research and Diagnosis; Fellow of the American College of Surgeons; Fellow of the American Medical Association. Introductions by ROBERT H. GAULT, Ph.D., Professor of Psychology, Northwestern University, and MEYER SOLOMON, M.D., Associate in Neurology, Northwestern University Medical School. *Funk and Wagnalls Company*, New York and London. 6th printing. \$4.00. Postage 14c.

A book which seriously attempts to give an understanding of the abnormal workings of the mind; and which is remarkably free, for a book on this subject, of terms which have no clear meaning, and the use of which many outside the alleged *cognoscenti* believe betrays confusion of ideas, if not entire lack of ideas. A book well calculated to render valuable daily help to every practitioner of medicine.

MEDICAL SCHOOLS SHOULD MAKE QUALIFIED GENERAL PRACTITIONERS

(W. H. Anderson, Booneville, Miss., in *New Orleans M. & S. J.*, Sept.)

Specialties have been magnified by the medical schools until the profession has become top-heavy with specialists. Generally speaking, the specialist is underworked and overpaid, while the general practitioner is overworked and paid barely enough to keep soul and body together. Prevention is the treatment of choice, and this must be done largely by the family physician. The general practitioner must be aroused to the importance of early diagnosis. He must have the facilities and the time to make examinations, and his observations must be recorded. The medical school should put in a course especially suited to the needs of the man who does general practice, the man who has been in practice for several years, as well as for the student who is beginning his course in medicine.

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., Supt.)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

Obstetrics and Gynecology

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS FANNIE AUSTIN, Nurse

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*

CHARLES S. MOSS, M.D. *Surgeon*

O. J. MACLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE *Pathologist*

INTERNAL MEDICINE

JAMES M. NORTINGTON, M.D.

Diagnosis and Treatment
in

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park Arkansas

JAMIE W. DICKIE, B.S., M.D.

INTERNAL MEDICINE
DISEASES OF THE CHEST

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

Fifteen West Seventh Street

Charlotte

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.

HARRY WINKLER, M.D.

Practice Limited to

ORTHOPEDIC SURGERY and FRACTURES

105 W. Franklin Ave.

Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761
Burlington North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J
3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the

EYE, EAR, NOSE AND THROAT

Telephones—

Office—4063

Hours—9 to 5 and by Appointment
219-23 Professional Bldg. Charlotte

HOUSER CLINIC

For Tonsils and Adenoids

415 N. Tryon St.

Consultation 219 Professional Bldg.
Phone 4063

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

*NERVOUS AND MENTAL DISEASE
ADDICTIONS*

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101 3-7102

Urology:

ANDREW J. CROWELL, M.D.
RAYMOND THOMPSON, M.D.
CLAUDE B. SQUIRES, M.D.
THEODORE M. DAVIS, M.D.

Prostatic Resection and

Operative Cystoscopy:

THEODORE M. DAVIS, M.D.
CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology:

ROBERT H. LAFFERTY, M.D.
CLYDE C. PHILLIPS, M.D.

Proctology:

L. D. McPHAIL, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay**Dr. Robert McKay****DOCTORS McKay and McKay***Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.

Charlotte

Residence Phone 1858

Office Phone 1857

DR. W. B. LYLES

Practice limited to

UROLOGY and UROLOGICAL SURGERY

Hours 9-5. Sundays by Appointment

221 East Main Street

Spartanburg, S. C.

BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., Director***PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM*

Colonial Apartments

Greer, S. C.

WYETT F. SIMPSON, M.D.*GENITO-URINARY DISEASES*

Phone 1234

Hot Springs National Park, Arkansas

FOR SPACE RATES

Address

806 Professional Building

SURGERY**ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

R. B. McKNIGHT, M.D.*SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30—5

Professional Building

Charlotte

WM. MARVIN SCRUGGS, M.D., F.A.C.S.*SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

WILLIAM FRANCIS MARTIN, M.D.*GENERAL SURGERY**GYNECOLOGY*

Professional Building

Charlotte

HAROLD GLASCOCK, M.D.*GENERAL SURGERY AND
DIAGNOSIS*Office At
Mary Elizabeth Hospital
Raleigh, N. C.

The Platelets in Thrombocytopenic Purpura* Response to Therapeutic Measures

CLAIBORNE T. SMITH, A.B., M.D., F.A.C.P., Rocky Mount, N. C.

Medical Service, Park View Hospital

"No satisfactory diagnosis of the purpurae can be made without a platelet count."

"The platelet deficiency seems the most important factor in causing the condition."

It has been suggested that platelets may have some hormone action on the capillaries, and when this is lacking, hemorrhage results. If the platelets are derived from the megakaryocytes, as suggested by Wright, the deficiency can come about by reason of any cause that destroys the megakaryocytes themselves, or that destroys the platelets after they are formed, more rapidly than normal.¹

Proofs of the effects of destruction to the megakaryocytes are seen in the secondary thrombocytopenic purpuras, where the bone marrow is hit; as in aplastic anemia, leukemia, bone marrow tumors, metastasis of carcinoma to the bone marrow; poisoning from benzol, benzene, arsphenamine, snake venom, x-ray, radium and such substances.

Essential thrombocytopenia seems to be a temporary condition of blood platelet deficiency, as evidenced by the fact that repeated transfusions, with fresh supply of platelets, frequently tide the patient over the attack; or, the patient weathers the storm undiagnosed and untreated. The effect of removing an enlarged spleen in raising the platelet count would suggest that the spleen is temporarily too destructive to the blood platelets. Those cases not benefited by splenectomy would in some measure discount this. The effect of antivenin in raising the platelet count would suggest that there is some toxin or substance formed in the patient similar to snake venom, which may have inhibitive or destructive action on the bone marrow, and this is neutralized by the antivenin.

The following charts are to demonstrate the effects of the three therapeutic measures mentioned:

Chart I

MRS. F. B.	Age 35	No. 21,619	Splenomegaly		
Date	W.B.C.	R.B.C.	HB.	Poly	Platelet
6-25-31	3,400	4.39	75%	30%	76,000
6-26-31	3,000	4.90			92,000
6-30-31			<i>Splenectomy</i>		
7-1-31		4.58	75%	68%	230,000
7-2-31					210,000
7-3-31	28,400	4.35	70%		160,000
7-10-31	17,600	4.35	90%	81%	670,000

Chart I is from a case of splenomegaly, which was probably of the Banti type. At operation there was definite cirrhosis of the liver. This case did not have purpura, it was used only to demonstrate the effect of splenectomy on thrombocytopenia. A very definite and immediate rise in platelet count is noted.

Chart II

J. T. (COL.)	Age 46	No. 21,020	Bleeding Gums		
			Purpura		
Date	W.B.C.	R.B.C.	HB.	Poly	Platelet Hem.
2-21-31	8,000	4.85	80%	57%	60,000 Pos.
2-22-31					
			<i>Transfusion 600 c.c.</i>		
2-22-31	3,400			71%	40,000 Pos.
2-23-31					80,000 Pos.
			<i>Transfusion 600 c.c.</i>		
2-27-31		5.91			90,300 Pos.
2-28-31		5.85	60%		67,000 Pos.
			<i>Transfusion 500 c.c.</i>		
3-2-31		5.01			190,000 Neg.
3-9-31		5.34		71%	386,000 Neg.

Chart II shows the effect of repeated transfusions. This colored man was a typical thrombocytopenic purpura with a low platelet count, normal clotting time, and a prolonged bleeding time. He was bleeding from

*Presented to the Fourth (N. C.) District Medical Society, meeting at Wilson, August 11th, 1931.

the gums and had purpuric spots about the upper chest and arms. The tourniquet test was positive. As the chart indicates, he had three transfusions over a period of nine days before there was an elevation of the platelet count and a cessation of hemorrhage.

On 2-21-31 the bleeding time was 30 minutes, clotting time 8 minutes, Wassermann of the blood 2-plus. On 2-22-31 the bleeding time was 19 minutes. Blood culture was negative.

Attention is called to the fact that at no time did he have any anemia. It would appear that keeping him supplied with an abundance of fresh platelets, his condition became readjusted. The absence of anemia suggests the condition was not so severe as the case in Chart IV, and for that reason the prognosis was better.

Chart III

D. C. C.	Age 7	No. 21,520	Epistaxis
Date	W.B.C.	R.B.C.	HB. Polys Platelets Hem.
6-7-31	5,200	3.87	50% 40% 60,000 Pos.
<i>Exsanguination 150 c.c.—Transfusion 500 c.c.</i>			
6-8-31	8,800	3.47	37% 110,000 Pos.
6-9-31		3.93	153,000 Pos.
6-10-31		2.78	60,000 Pos.
<i>Antivenin</i>			
6-11-31	20,000	2.94	39% 126,000 Pos.
6-12-31	13,200	2.74	46% 166,000 Neg.
6-13-31	13,600	2.74	32% 366,000 Neg.

Chart III is from a boy with a definite thrombocytopenic purpura. Five days previous to admission he had a chill followed by fever. The following morning he was afebrile, but had a chill and a rise in temperature in the afternoon. He was given quinine without any effect on the temperature. The night before admission his nose began to bleed. The mother tried various local measures to relieve it including "cording the arm." She then noticed some purple spots appearing below the site of the tourniquet. On admission, the child had some purpuric spots about the neck, the chest and lower extremities, and was still bleeding from the nose. During his stay in the hospital he also bled some from the kidneys.

This case illustrates the temporary effects of transfusion. Following withdrawal of 150 c.c. of blood and the transfusion of 500 c.c. of fresh blood, there was an 8-hour period of relief from the epistaxis, and the platelet count was fairly good for 72 hours; after that, it had dropped back to its previous low level.

Another transfusion might have caused a similar remission, but it was purposely withheld to try antivenin. Antivenin has been very successfully used by Dr. K. P. A. Taylor² in 1928 at Quirigua Hospital, Guatemala, in the case of a man severely ill, after transfusions and other hemostatic measures had failed. It was used again at the Gorgas Hospital, Ancon, Panama, in 1930 by Drs. Stockton and Franklin³ on a similar case and met with same success. As they had used the antivenin for the tropical American snakes (genus *Bothrops*), it was particularly interesting to see if that used for the North American serpents (nearctic *Crotalidae*) would have the same effect on the platelets and arrest the purpura. In this case the action was phenomenal. There was an arrest of the hemorrhage in 24 hours and an increase in platelet count which was rapid and consistent.

Chart IV

V. C. (COL.)	Age 28	No. 21,173	Bleeding Gum
Date	W.B.C.	R.B.C.	HB. Poly Platelets Hem.
7-8-30	6,600	1.21	20% 67% 56,600 Pos.
7-9-30			
<i>Transfusion 800 c.c.</i>			
7-10-30		1.53	40,000 Pos.
7-11-30		1.695	50,000 Pos.
<i>Antivenin</i>			
7-12-30		1.23	33,000 Pos.

Died

Chart IV is from a case in which nothing seemed to be of any benefit whatsoever. The transfusion of 800 c.c. of fresh blood gave a slight elevation in the red cell count, but none in the platelet count and no arrest of the hemorrhage. The antivenin was used without any result. Why didn't this case respond to treatment? An examination of the bone marrow might have thrown some light on it. Permission for an autopsy was refused.

References

1. CHRISTIAN, H. A.: Purpura. *Oxford Medicine*, ii, 779.
2. TAYLOR, K. P. A.: Apparent Cure of Pupura Hemorrhagica by Bothropia Antivenin. *Bull. Antivenin Institute of America*, iii, No. 2.
3. STOCKTON, M. R., and FRANKLIN, G. C. H.: Antivenin Therapeutics in Purpura. *J. A. M. A.*, xciv, 677.

LONDON HOSPITAL, with 839 beds, is the largest in England.

Principles and Methods of Early Diagnosis of Acute Abdominal Conditions*

J. BIVENS HELMS, M.D., Morganton, N. C.

Diagnosis is both art and science, ability to properly collect the necessary facts comprising the art, while the method of properly applying the facts makes up the science. It is my purpose to emphasize very briefly certain every-day principles and methods underlying early diagnosis of acute abdominal conditions. Our surgical death-rate can be reduced mainly through more prompt diagnosis and treatment; and in this, the general practitioner has a large place. Kitchin says: "Give me a mediocre surgeon and an early operation rather than a great surgeon and a late operation."

PRINCIPLES OF EARLY DIAGNOSIS

1. *Get busy immediately.*—Any disease in the abdomen, developing acutely should call forth all your powers for speed in diagnosis. You owe it to your patient to see that he, or she, has the chance of an operation within the first six or eight hours. Do not temporize. If you wait for a positive diagnosis on all acute abdominal cases, you will wait too long and will lose a large number of patients whose lives could have been saved. You will be confronted occasionally with an obscure case in which you will be unable to make a definite diagnosis, yet in which operation should be done. This is not radical surgery. It is not promiscuous surgery. It is conservative surgery. Should no disease be found, no great harm has been done. Dr. Chas. Mayo says he has never seen a patient die as a result of an exploratory incision, though he has many times seen patients die because it was not made.

2. *Obtain a Careful History.*—The importance of this is generally underestimated. A carefully elicited and carefully interpreted history is more important than a study of the physical signs. Learn the patient's chief complaint, the exact time and mode of onset of the pain. Was it the very first symptom? If so, consider the case surgical until definitely proven otherwise. Sudden onset of severe abdominal pain in patients who have been previously well and which persists for six

hours or more, regardless of secondary symptoms, is usually a surgical condition. Whatever the type and course of the pain, it is the mouthpiece of intra-abdominal pathology; and is the best friend the physician has in the diagnosis of disease in the abdomen requiring surgical treatment.

3. *Make a Thorough Physical Examination.*—Note the position the patient assumes, his general appearance, and his facial expression. Is he restless or does he lie in one position? Do not forget that at the onset of an acute surgical condition of the abdomen the t-p-r are often within normal limits. Examine the entire abdomen carefully and systematically. Do not hesitate to do a rectal examination, or a vaginal and rectal examination. Rectal and vaginal examinations distinguish a good doctor from an ordinary doctor. Rule out pulmonary and kidney disease.

4. *Apply Your Knowledge of Anatomy, Physiology and Pathology.*—If you keep the anatomy of the affected region in mind, the localization of inflammatory lesions will be fairly easy. When the function of one organ is disturbed, other organs may be affected more or less seriously. Physiology plays an important part in diagnosis. When a gastric ulcer perforates, there is a severe initial shock probably due to a sudden stimulation of the nerve endings in the peritoneum by the acid stomach contents. Then in a few hours, there is a period of physiological reaction due to a restoration of the nerve equilibrium. The stomach contents have now gravitated to the right flank and the picture resembles appendicitis in many respects. During this period the patient feels much better, his general appearance is improved and the diagnosis of acute perforated gastric ulcer presents many difficulties; but soon secondary vomiting sets in, the pulse quickens, the abdomen becomes distended and the true picture of peritonitis is present. The calm reactionary period was but the lull before the storm.

Stretching or distention of the intestines causes pain, or intestinal colic, in just the

*Presented to the Ninth (N. C.) District Medical Society, meeting at Lexington, Sept. 23rd, 1931.

same manner as biliary and renal colic is produced. Colic of the large intestine is usually referred to the hypogastrium, that of the small intestines to the epigastric and umbilical region. Biliary colic is felt in the right subscapular region, while renal colic is felt in the loin and radiates to the corresponding testicle in the male, and to the vulva in the female.

Your knowledge of pathology will tell you that the subsidence of the acute pain in acute appendicitis often signifies the onset of gangrene or perforation. Always try to picture the process that has occurred.

5. *Eliminate Medical Possibilities.*—Typhoid fever, influenza, nephritis, pyelitis, pneumonia, pleurisy and tabes dorsalis should always be ruled out before diagnosing a case as surgical. A thumb rule useful in differentiating is as follows: persistent abdominal pain followed by nausea, vomiting and difficulty in moving the bowels is almost invariably surgical; while nausea, vomiting, perhaps diarrhea, headache, malaise and chills followed by abdominal pain is almost always medical.

6. *Diagnose and Treat Early.*—As long as there is a surgical aspect to the case, morphine should never be given until a reasonable diagnosis has been made. You will be kinder to your patients if you withhold morphine for a while. The family and friends will expect the physician to relieve the pain immediately. If morphine is given symptoms will be masked, diagnosis will be more difficult and treatment more uncertain. Every hour counts. The proper and only treatment for perforated ulcer, acute appendicitis, intestinal obstruction, ruptured ectopic gestation, acute pancreatitis and ruptured viscera is operation; and if done early and properly, practically all these patients will get well.

Cases of intestinal obstruction seem to be later getting to the surgeon than any other class of acute abdominal conditions. The mortality rate in this condition rises approximately 1 per cent. for every hour of procrastination. Van Buren has stated that the *longer* a patient with intestinal obstruction lives before operation, the *sooner* he dies after it. Until fairly recently, operation for intestinal obstruction was regarded as the *last* instead of the *first* resort. Do not wait for fe-

cal vomiting; it is a sign of impending death rather than a symptom of disease.

If the case is appendicitis urge immediate operation; even though it be not extremely acute. Then, as Deaver has so classically put it: "The sword of Damocles will not be suspended over the patient's head in the form of recurrent attacks, and possible perforation, peritonitis, and perhaps death."

METHODS OF EARLY DIAGNOSIS

Under this heading come the history and general examination. Have a definite method of history-taking and physical examination in mind; above all, be thorough.

The History.—In my opinion 90 per cent. of all the acute abdominal conditions can be diagnosed from the history alone—if history is properly taken. Do not be in too big a hurry to palpate the abdomen. Take the time to get a full and accurate history of the case, and you will be surprised how extremely frequently the diagnosis will be made before your physical examination is begun. Then, with the history clear in your mind, examine the patient in a systematic manner.

The chief complaint is the nucleus of your history. Be sure you have obtained the chief complaint, then build your case around it. Keep in mind the fact that pain is the primary and outstanding symptom of practically all acute surgical conditions. When this is not the case go slow in making a surgical diagnosis.

The exact time and mode of onset of the pain are important. A sudden severe pain in a person previously well and persisting is no ordinary pain. Did the patient faint? Perforated peptic ulcer, acute pancreatitis and ruptured ectopic gestation are surgical conditions most likely to cause fainting. What is the character of the pain?; when did it begin?; where did it shift to?; what symptoms accompanied it?; and did it persist?

Acute disease in the small intestines causes pain chiefly in the umbilical and epigastric regions; the zone of distribution of the 9th to the 11th thoracic nerves. The appendicular nerves come from the same source, hence the same pain. When the disease is in the large bowel, the pain is in the hypogastrium or at the actual site of the lesion.

The general character of the pain is important. Perforated gastric ulcer gives a se-

vere burning pain. Acute appendicitis is usually ushered in by a sudden colicky pain, followed soon by a localized aching pain. The pain in biliary colic is cramp-like; that of intestinal obstruction griping. Acute pancreatitis gives a most agonizing pain. Pyonephrosis gives a constant dull loin pain.

What gastro-intestinal, genito-urinary and cardio-respiratory symptoms accompanied the chief complaint? If patient is a woman investigate the menstrual history carefully.

The age is of aid. Appendicitis occurs at any age, but is most common in young adolescents. Acute pancreatitis is a condition of middle life. Intestinal obstruction due to intussusception practically always occurs in infants under two years of age; while that occurring in late middle life and old age is most frequently due to carcinoma of the bowel.

The past, family and social history are not quite so important in surgical cases as in medical cases, yet should be investigated.

The General Examination.—Note the general appearance. The facies has its own story. All of us are familiar with the appearance of a patient suffering from shock or hemorrhage, or both. We are also familiar with the flaring alae nasi and rapid shallow breathing of pneumonia—a condition often simulating acute abdominal disease. A case of advanced toxemia presents a facial picture likewise familiar to us all—the dull, lusterless eyes, the ashen countenance, and the look of apathy. However, in the very early cases of abdominal disease, the face most often tells you nothing; especially, is this true in early cases of appendicitis.

The t-p-r are of some value. Of these three, the pulse is the most reliable; but even this is most likely normal in the early stages of acute abdominal disease. Temperature is seldom of any importance except in the late stages. Respiration is often valuable in differentiating between pulmonary and abdominal pathology. In early appendicitis the t-p-r are usually within normal limits. If a patient with abdominal pain is found to have a temperature of 103° or more at the onset of the illness, the chest or kidney is most likely the seat of the disease. And right here, let me say that pyelitis can not always be diagnosed by the urine examination as long as the temperature is around 103° or over; when the

temperature drops pus will appear in the urine.

Now for the abdominal examination. In a good light with the abdominal, pelvic and femoral regions well exposed and the patient flat on the back with head raised on a pillow, arms at the side, and the knees drawn up so as to relax the abdominal muscles, you are ready to proceed. Inspect for distention, flatness, masses, and routinely inspect all hernial orifices with special attention to the femoral canal.

Palpate for muscular rigidity with the finger-tips of a warm hand, placing the tips of all four fingers lightly on the abdomen at the point furthest away from the suspected region, using hardly any pressure, the finger tips glide gently from the normal to the abnormal region, all the time noting any variation. Take your time, be as gentle as it is humanly possible to be. Lay the hands flat on the belly, press down first with the fingers then the heel of the hand until the underlying structures can be felt. If any masses are present, you will most likely feel them. Note carefully tenderness as well as rigidity. Definite tenderness and rigidity over a muscle means disease under it. Palpate the liver, spleen and kidneys, if possible. Do a bimanual as well as a unimanual examination.

Percussion is of value in ascertaining whether a mass is present or not, also in estimating the degree of distention, if present.

Lastly, auscultation is employed. Acquaint yourself with the light tinkle-tinkle of normal peristalsis. Generalized peritonitis gives a silent belly. In a severely traumatized belly, there is likewise an absence of peristalsis. In intestinal obstruction there is a loud booming type of peristalsis.

A bimanual recto-abdominal and a bimanual vagino-abdominal examination should always be done whenever even the least indicated.

Next eliminate the possibility of pulmonary disease by the usual methods of chest examination.

If the patient is an adult, the pupillary reactions and knee jerks should be tested, so as to rule out the possibility of a tabetic crisis. In *tabes dorsalis* there is an Argyll Robertson pupil and a loss of the deep reflexes, especially the patellar and Achilles.

Last in the general examination comes the laboratory. The usual routine laboratory examinations need no comment here, except to say that they in general should be thought of as means of supplying corroborative evidence. Let me suggest that you not lean too heavily upon the laboratory. Blood counts in abdominal conditions should be routine, but not slavishly depended on.

SUMMARY

I have attempted to emphasize the following principles in early diagnosis.

1. Get busy immediately
2. Obtain a careful history
3. Make a thorough physical examination
4. Apply your knowledge of anatomy, physiology and pathology
5. Rule out medical possibilities
6. Diagnose and treat early.

I have tried to place emphasis on a careful, systematic history and general examination.

NEW METHOD IN HEALING CHRONIC ULCERS

(I. S. Tunick & D. H. Kling, N. Y. City, in *Amer. Jl. Surg.*, Sept.)

Ulcers covered with dirty necrotic material and pus, and whose surrounding area is red and inflamed, are first treated by a few days in bed with local application of mild antiseptic wet dressings, *e.g.*, saturated solution of boric acid. As soon as the surface is fairly clean the ulcer and its edges are painted with 2 per cent mercurochrome or with a weak tincture of iodine solution. A 5- to 10-c.c. syringe is then filled with physiological salt solution; 22- or 23-gauge 1 in. or $1\frac{1}{2}$ in. needle is employed. The injection is started at the edge of the ulcer; the needle is inserted until it passes the resistant fibrotic area. The solution is slowly injected and continued while the needle is gradually withdrawn. If the ulcer is large, its entire circumference should be injected at about $\frac{1}{4}$ -in. intervals. The amount of solution injected varies from 2 to 10 c.c. depending upon the size of the ulcer and the surrounding fibrosis. In the beginning it is advisable to anesthetize the ulcer with 2 per cent novocaine solution into the edges for the first two or three treatments. Considerable force will be found necessary in order to penetrate through the sclerosed area. Very little bleeding will be noticed from the needle puncture, in the beginning of the treatment, but after two or three treatments new blood vessels and granulations begin to form and bleeding becomes free. The treatment is repeated every three or four days until the ulcers begin to heal.

During the treatment the ulcer is dressed with a bland ointment or sterile vaseline dressing. After the ulcers are healed we advise the patient to wear a supporting bandage for a few months. The healed

scar of these ulcers is very strong and firm and does not break down easily. Slough produced by the sclerosing method of treatment of varicose veins are very difficult to heal. When these sloughs are treated by this method they heal very rapidly. However, in sloughs the base should be injected as well as the edges.

Of 25 cases two were not benefited by the saline injections alone. The number of injections varied from 1 to 20.

MEDICAL SOCIETY OF NEW JERSEY ORGANIZED 1766

(*Medical Recorder*, 1826)

It is stated in the preamble to the constitution of the Medical Society of New Jersey, that "a considerable number of practitioners of physic and surgery in East New-Jersey, having agreed to form a society for their mutual improvement, the advancement of the profession, and the promotion of the public good and of cultivating harmony and friendship among their brethren, they did request and invite every gentleman of the profession in the province, who might approve of their design, to attend their meeting to be held in the city of New Brunswick, July 3d, 1766; at which time and place the constitution and regulations were to be settled and subscribed."

From this time, until November 14th, 1775, the Society continued to prosper; regularly meeting twice in each year. During the above period, several unsuccessful attempts to obtain a charter from the governor and council of the province were made.

The first meeting of the Society after the war, was held at Princeton, on the 6th November, 1781. Semi-annual meetings of the Society were held with much regularity afterwards, and attended by increased numbers of the profession from all parts of the State. In the autumn of 1790 the Society was incorporated, by the style and title of the Medical Society of New-Jersey. The general Society is formed by delegation from the County Societies and assembles semi-annually, in May and November.

The very desirable objects had in view by the founders of this Society, which is said to be the *earliest medical association in the union* [*Italics ours.—S. M. & S.*] have, we think, in a good measure been obtained; the more prominent of which were, to promote a more friendly correspondence and communication of sentiment among the members of the profession; a more regular mode of practice, and of charges for services rendered; and a careful regard to the qualifications of candidates for license to practise. It was provided that the censors of each of the District Medical Societies "not examine any candidate, until he can give satisfactory evidence of having arrived to the age of 21 years; studied under the direction of some regular practitioner of medicine the term of four years, and attended at least one course of medical lectures; but, if he shall have obtained a diploma from any college, then three years study, including a course of lectures shall be considered sufficient."

The Milk Sickness or Trembles Report of Five Cases

W. P. RICHARDSON, M.D., Lenoir, N. C.

Milk sickness, or trembles, was first described by Dr. Daniel Drake¹ as occurring in the Ohio Valley in 1810. Since that time scattered groups of cases have been described in various parts of the United States under different names. It has occurred most frequently in Ohio, Illinois and Indiana, but has occurred also in Kentucky, Tennessee and North Carolina, and, to a lesser extent, in Georgia and Virginia. In North Carolina it has occurred most frequently in Avery, Watauga and Caldwell Counties.

The etiology has been much in doubt. Early in its history, however, its occurrence was linked with milk. Jordan and Harris² in 1909 isolated a bacillus which they called *Bacillus lactomorbus*, which they claimed was the cause of the disease. However, the work of Wolf, Curtis and Kaupp³ of the North Carolina Department of Agriculture in 1918, and the more recent work of Couch⁴ and others for the United States Department of Agriculture have proved beyond a doubt that the disease is not caused by a bacterium, but by a substance found in the plant known as white snakeroot (*Eupatorium urticaefolium*). It is an oily, straw-colored compound, known as trematol, and has been isolated in pure form. This substance also occurs in a Western plant known as rayless goldenrod (*Aplopappus heterophyllus*).⁵

Cows and other domestic animals eating either of these plants are affected with the disease, which is characterized in animals by great weakness and by trembling after they have run a short distance. Animals which are lactating seem to be less affected than those which are not. Trematol, or a trematol derivative or compound, is secreted in the milk, and it is from the milk of affected cows that the human form of the disease is acquired. The causative substance has not been isolated from milk. There is a possibility that the disease may be acquired from the meat, though experiments by Wolf, Curtis and Kaupp³, and by the United States Department of Agriculture⁶, failed to produce it in this manner. The mortality among human beings is high.

I want to report five cases occurring in one family, with one death and four recoveries. Three members of the family escaped, the mother, a grown son and the baby. These cases were seen by me in consultation with Dr. C. L. Wilson.

Those affected were:

- Girl aged 17, sick 4 weeks, recovered;
- Girl aged 9, sick 5 weeks, recovered;
- Father aged 50, sick 4½ weeks, recovered;
- Boy aged 11, sick 5 days, died;
- Boy aged 6, sick 2 weeks, recovered.

In general the longer sicknesses were less acute than the two of shorter duration, one of which ended fatally. The symptoms of all were similar: loss of appetite, pains in the abdomen of increasing severity, severe constipation, and intractable vomiting. There were also abnormal thirst and some swelling of the tongue. The breath was foul. The temperatures were not taken regularly, but were always subnormal when they were taken. The boy who died became unconscious the 4th day, and at the time I saw him, 12 hours before he died, his respirations were deep and rapid, and there were spasmodic muscular twitchings, especially of the lower extremities, amounting at times almost to convulsions.

We were unable to get blood determinations on any of these patients, but Dr. N. W. Mackie⁷ tells me that the blood of some patients tested by him showed hypoglycemia. There is general agreement that acidosis exists.

The time-honored treatment in mountain sections where it is prevalent consists of calomel, and brandy and honey. A more scientific plan of treatment is saline purgation, alkalies by mouth, glucose by mouth and rectum,—and, if necessary, by vein—soda enemas and forced fluids.

The disease may be prevented by keeping cattle off of land known to be infested, but a better plan is total destruction of the plant. As it has a short root, this is easily accomplished by pulling it up. One thorough going over of a pasture will be sufficient. The plant occurs as a rule in shady, sheltered coves or on the shady side of the mountain.

Bibliography

1. DRAKE, D.: Notices Concerning Cincinnati, 1810. Reprint in *Quart. Pub. Hist. and Phil. Soc., Ohio*, 3, No. 1-2, 1908.
2. JORDAN, E. O., and HARRIS, N. M.: Milk Sickness. *Jour. Infect. Dis.*, 6:401-491, 1909.
3. WOLF, F. A., CURTIS, R. S., and KAUPP, B. F.: A Monograph on Trembles or Milk Sickness and White Snakeroot. *N. C. Agr. Expt. Sta. Tech. Bulletin* 15, 1918.
4. COUCH, J. F.: The Toxic Constituent of Richweed or White Snakeroot (*Eupatorium urticaefolium*). *Jour. Agr. Research*, 35:547-576, 1927.
5. COUCH, J. F.: The Toxic Constituent of Rayless Goldenrod. *Jour. Agr. Research*, 40:649-658, 1930.
6. U. S. Dept. Agr. *Farmer's Bulletin* 1593:5.
7. MACKIE, N. W.: *Personal communication*.

DA VINCI, GREATEST OF GENIUSES

(C. M. Wilhelmj, Omaha, Neb. State Med. Jl., Aug. & Sept.)

Nearly every sphere of intellectual activity was explored and enriched by the researches of this man, one of the most astonishingly versatile geniuses that the world has known.

The discovery of America, personal acquaintance with Vespucci and Christopher Columbus awakened his active mind to a keen interest in geography.

We physicians are primarily interested in his anatomic and physiologic investigations. In 1516, when Cardinal Aragona paid him a visit, Leonardo prided himself on having made dissections of more than 30 human bodies. Most of his conclusions, notably of the functions of the diaphragm and other muscles, might well be taken from a modern textbook of anatomy. His ideas on nutrition and growth and of the function of the spinal ganglia were marvelously accurate.

Primarily an artist, it is not surprising to learn that some of his finest work dealt with the physiology of vision. In addition to his discovery, perfection and use of the camera obscura he discovered the image of external objects is inverted and reduced in size on the retina of the eye. He is also credited with having been the first to discover the effect of light and of darkness upon the size of the pupil, this at about the time that he was painting the portrait of an Italian nobleman's wife. Physiologist and artist alternated during the sittings, he would suddenly leave his easel and stand before her gazing intensely into her eyes, first shading them with his hand and then uncovering them. This woman, proud, vain and high self-conscious, if we may be permitted to judge her character from the famous picture, probably believed his actions to result from un concealed admiration of her beauty, and hence the subtle mocking smile which he faithfully reproduced upon the canvas and which makes Mona Lisa famous.

Leonardo was the inventor of the system to which Galileo, a century later, owed his greatest discoveries; the system to which Bacon, who taught it without understanding it, is indebted for his reputation as the restorer of the sciences.

Nature having endowed her favorite son with almost unparalleled gifts, saw fit to play one of her frenzied and hideous jokes which often retard the progress of civilization for centuries. The works of Leonardo Da Vinci were lost for nearly 200 years after his death. When finally unearthed it was some time before they were deciphered because of his peculiarity of mirror writing.

When he realized that the end was near he quietly arranged his affairs and turned to his journal to make the final entry—"Man always festively awaiting the new spring and the new summer, complains that the longed-for things are slow in coming, and fails all the while to notice that he is longing for his end."

SIR HANS SLOAN, DOCTOR, NATURALIST, FOUNDER
BRITISH MUSEUM

(Editor J. J. Waring, in *Colorado Medicine*, Sept.)

Hans Sloane (1660-1753), the youngest of seven sons, in spite of pulmonary hemorrhages at 16 years of age and three subsequent years of invalidism, lived to be nearly ninety-three years old.

From early childhood he was interested in natural history and studied botany at the Chelsea Garden. Later he accompanied the Duke of Albermarle on a trip to Jamaica where he lived for fifteen months. He returned to England with a valuable collection of plants and voluminous notes on the flora and fauna of the island, which he later expanded into a beautiful and important work. He took an M.D. degree at Oxford, received honors from several foreign academies and was appointed physician to Queen Anne. Although he enjoyed a large and fashionable practice he never failed to look after the poor gratuitously every morning until 10 o'clock. When George I in 1716 made him a baronet he was the first physician to receive that honor. He was a founder of the Royal Society, later its secretary, when he revived the "Transactions," and finally succeeded Sir Isaac Newton as president, a position he held for 14 years. He was a Fellow of the Royal College of Physicians and later also its president. He was an advocate of inoculation against smallpox and deserves great credit for popularizing the use of Peruvian bark.

From this Chelsea Physic Garden in 1732 came to General Oglethorpe's Colony of Georgia the first cotton seed to reach America, the "parent stock of upland cotton" from which the greater part of the world's cotton is descended.

Shortly before reaching his 93rd birthday this remarkable man passed away, leaving his great and varied collection of books, gold and silver coins, etc., to the nation for the founding of the British Museum.

Pellagra—Cause and Treatment*

Presentation of Cases

ROBERT C. MILLER, M.D., Gastonia, N. C.

Received for publication September 10th, 1931

The cause of pellagra is, in my opinion, a deficiency in usable calcium in the system and not a vitamin deficiency as is so widely believed.

Deficiency in iodine produces a certain type of goitre. Deficiency in iron produces a well-known type of anemia. Lack of sunshine is a vital factor in the production of rickets. Lack of fresh vegetables and fruits produces scurvy and beriberi. No warm-blooded animal can live for any great length of time without sodium chloride. Certain other vital factors of diet are concerned with reproduction in rats and mice, at least, although probably not necessary in the genus *Homo*.

The poor of the Northern and Western states do not suffer with pellagra as do those of the southeastern section of the U. S., although their diets are quite similar as to vitamins. There is a higher percentage of calcium in the soil of the former regions, whereas the soil of the southeastern section of the U. S. is notoriously deficient in calcium. We need not expect the water which percolates through, or any article of food grown in, a soil that is deficient in calcium to contain as much calcium as water or food-product from localities in which the supply of calcium is more abundant.

The blood-sera from a number of patients with marked skin manifestations of pellagra were examined before any treatment was instituted and a reliable laboratory technician reported normal blood-serum calcium in each case. That does not mean that the calcium found in the blood-serum is a usable form of calcium. From a St. Louis laboratory has come a report¹ of reduced calcium content of the blood in pellagra. There are cases on record of patients having all the manifestations of tetany and reacting to calcium therapy, who showed blood-serum calcium within

normal limits. The total calcium in the blood-serum is composed of available calcium and non-available calcium and there is no known method of determining how much is available calcium.

There is a considerable pellagra problem arising in some of the "black belts" of the large northern cities; but many of these inhabitants came from the South where there is a deficiency in calcium and then are fed on vegetables grown in the same area for a large portion of each year, so why should they not develop pellagra?

All city water that is supplied through filtration plants contains a very small percentage of calcium. There are occasional cases of pellagra showing up in areas that have sufficient calcium in the soil. These can be explained as due to a defect in calcium metabolism and not due to a deficiency in calcium intake, just as there are disturbances in the metabolism of sugar or certain proteins.

In the earlier stages of our development there was not such demand for refinement of articles of diet; our ancestors were content with bread from all the wheat and potatoes cooked with the jackets on, and the portions of food containing the inorganic salts were not discarded as they are today. The farmer of a few years ago cleaned out his well or spring each year and then gave it a generous sprinkling of lime inside and out which, unknowingly to him, supplied his household with a goodly portion of the calcium needed during the coming year.

Pared vegetables and fruits, white meat, white beans, white bread, molasses and black coffee make a diet as deficient in calcium as any one could select, and when all of these are produced from a soil deficient in calcium it is obvious that the deficiency in usable calcium will be grave. The above articles constitute the greater part of the diet of the average pellagrin. Do not forget that the water is collected from a region deficient in

1. Koehig, Irene: *Jour. Lab. & Clin. Med.*, 1924, 7, 679.

*Presented to the Gaston County (N. C.) Medical Society, meeting at Gastonia, Sept. 7th, 1931.

calcium. A diet composed of lean meats, eggs, fish and milk is a diet that contains the highest percentage of calcium obtainable in our whole list of foods; are not these the articles advocated as a cure for pellagra?

Let us consider some statistics for the moment and see what pellagra has been doing for our Southern States. Seven States: Ala., Ark., La., Miss., Okla., S. C., and Va., during 1927, a year of good employment and wages for the working class of people, reported 20,591 cases of pellagra with 3,038 deaths. The reporting district of the U. S., composed of 37 States and the D. C., reported 5,843 deaths from pellagra. N. C. reported 659 deaths. Ala. reported 670 cases with 552 deaths, one death for each 1.2 cases reported. Pneumonia for that year had a lower death rate in that State, one death for each 1.6 cases reported. Miss., an adjoining State, reported 11,847 cases of pellagra with 689 deaths, or one death to each 17.2 cases reported.

During 1928 these same Southern States reported 25,542 cases of pellagra with 3,755 deaths. The same reporting district for the U. S. reported 7,377 deaths, the figures for Miss. reported 13,847 cases with 747 deaths, N. C. reported 847 deaths, S. C. reported 6,409 cases with 927 deaths, Ala. reported 823 cases with 698 deaths.

During 1929 these same Southern States reported 25,323 cases of pellagra with 3,599 deaths. The same reporting district of the U. S. reported 7,377 deaths. The figures for the other States showing a fairly constant relation as before.

Look at these figures for a moment; the two States reporting the largest number of cases are States composed, largely, of yellowish sandy-loam or alluvial soil very low in calcium content. June and July show the greatest increase in cases for any 2-month period in the year. I account for this increase as due to changes in diet. As the temperature rises the daily food requirements show a decline and there is less intake of foods with the higher calcium content. There is also a probable increased requirement for calcium in protein metabolism in order to protect the body from increased intensity of solar rays. There is something peculiar about most pellagra patients that makes them regard their condition with much reticence and

they are lacking in desire to coöperate in treatment as is so necessary for any lasting relief. When the skin symptoms subside they are prone to regard themselves as cured and do not return for further study or treatment. They resume their former deficient diet and take it until their skin symptoms reappear, which is usually the following spring.

The visible symptoms of pellagra are too well known to every physician in the South to need description here.

I read a paper before this society two years ago, advocating the use of calcium in the treatment of pellagra, but did not present any clinical cases in support of my theory as to cause. At that time I used calcium lactate in 20-gr. doses t. i. d. That was a rather expensive form of treatment and suffered many delays due to financial reasons. Pellagra patients are, as a rule, of limited means, so the cost of treatment is a very vital subject.

For the present series of cases I selected the most easily obtainable form of calcium medication, using lime-water in 2-oz. doses one-half hour before each meal diluted with equal parts of water. I believe that any soluble form of calcium would produce results just as good. The remedy was what we sought, the form of administration can be experimented with later.

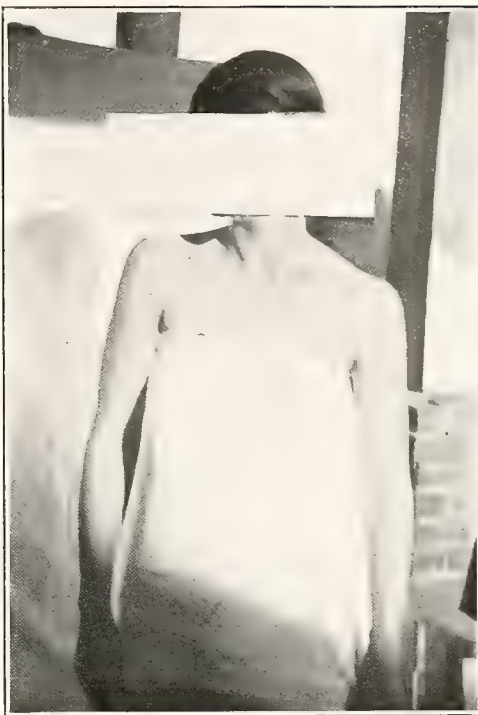
During my first efforts at treating pellagra by calcium medication I had for a patient one who had shown skin manifestations of pellagra each summer for several years and had tried every form of treatment recommended by any one without any lasting results. She stated that she felt better after taking calcium lactate for one week than she had ever felt from any other treatment. The first thing these patients noticed was relief from the burning and stinging of the skin with relief from burning in the stomach and sore mouth, when present. By the end of the first week there is marked improvement in appetite and they can eat most anything that is set before them. They are hungry.

The series of cases that I am presenting today have had no changes in their former diet, no yeast or other form of medication other than the addition of two ounces of lime-water 30 minutes before each meal.

Six cases, all white, are herewith presented. None of these has been under treatment for a longer period than two months.



Showing Condition August 7th



Condition September 7th

Case No. 1 (Photo attached)—Woman, 22, married, mother of two children, never had any serious illness; presented herself for examination for the first time on August 7th, 1931. At that time there was a typical, fresh pellagra eruption on extremities and neck. Patient was anemic, thin, showing all the symptoms of undernourishment, complaining of weakness and loss of appetite with some burning and tenderness in gastric region. This patient was told to continue exactly the same diet as she had been using with the addition of no extra articles of diet or medicine. She was told to take four tablespoonsful of lime-water, t. i. d., $\frac{1}{2}$ hr. a. c. Within a week she was showing visible signs of improvement and stated there was a marked improvement in her appetite, the burning was gone from the stomach and she could eat anything she desired without discomfort.

Patient presents for examination September 7th shows only one slight mark of the previous eruption. There is considerable anemia, no effort has been made to overcome this other than the increase in the quantity of food taken. She says she feels much improved and has been doing her usual housework without the former feeling of exhaustion and gastric distress.

Case No. 2—Man, 71, examined at his residence July 10th, 1931. He was in bed with swollen feet and infected sores on hand and foot with some fever

and a decompensating heart, an old broken man showing all the marks of hard labor. There was marked redness of both arms and feet with tenderness in the upper abdomen, bright red, clean tongue; four badly decayed and infected teeth (which were removed at that time). This patient was given instructions as to the preparation of lime-water and told to take 2 oz. t. i. d., $\frac{1}{2}$ hr. a. c. in addition to the diet he was accustomed to. The infected areas were treated with antiseptic dressings and healed as promptly as could be expected in one of that age and physical condition.

You see him here (September 7th) an old worn-out, toothless man, scarcely able to walk without assistance. The skin eruption has disappeared and he reports no pain in the stomach and that he can eat anything without it hurting him.

Case No. 3—Woman, 37, married, mother of five children, no history of any serious sickness, presented herself for examination on July 10th, 1931, complaining of sore mouth and tongue, loss of appetite and burning in the epigastric region. Tongue was clean, red, and showed numerous raw papillae; there was also present a beginning pellagra eruption on arms and legs. This patient was sent home with instructions as to the preparation of lime-water and directed to take 2 oz. t. i. d., $\frac{1}{2}$ hr. a. c. This patient soon stopped this treatment as she had taken the lime-water undiluted and it made her mouth

burn badly. I saw her again in two weeks, gave her directions to dilute it and continue as before. She has not followed her instructions very carefully and has not made the progress that those have who followed instructions carefully.

The skin symptoms have disappeared entirely on the neck and arms (Sept. 7th, 1931), but there is some desquamation going on on legs; mouth shows no sore spots; the tongue is clean and tender. Appetite is good and patient is making progress in proportion to her co-operation in treatment.

Case No. 4—Woman, 21, single, sister to patient of case No. 3, presented herself for examination on the same date. Has had the usual diseases of childhood with no complications. She complained of being so weak that she could not work, had no appetite, clean, red tongue, no sores in mouth but burning in stomach was present. There was present the typical pellagra eruption on arms, neck and lower limbs, just beginning to show well. This patient was given instruction as to continuing the present diet and told to take lime-water in the same dosage as the other patients. Within two weeks from beginning treatment the skin symptoms had almost entirely disappeared, she had a good appetite and had resumed her work in a cotton mill.

This patient (Sept. 7th, 1931), as you see, has no visible signs of pellagra. She says she feels better than she has for many months.

Case No. 5—Married woman, 28, mother of 5 children. Husband out of work and had been for some time. The entire family were on slim rations. This patient first seen July 20th, 1931, complaining of sore mouth and tongue, burning in stomach, with typical pellagra eruption on neck, arms and legs. She was placed on lime-water, usual dose, with instructions to add no milk or yeast to her diet. She complied with instructions exactly and returned on August 3rd for inspection. At that time the skin symptoms had almost entirely disappeared; there were no gastric or mouth symptoms present. She was told to reduce the lime-water half and to report again in two weeks. She came back at the expiration of one week complaining of the soreness returning in the mouth and stomach burning, requested to be allowed to resume the full amount of lime-water; request was granted.

This patient presents herself for your examination (Sept. 7th, 1931) with all symptoms gone. She is happy over her relief and states that she feels better than she has for the past three years.

Case No. 6—Single woman, 22, first seen July 11th, 1931. She is tall and thin with no history of serious sickness of any kind. She first began feeling bad in March of this year and the skin eruption appeared during the latter part of that month. She could scarcely go, but just kept dragging about. She had been out of work since Christmas and was out of funds. At time of examination she showed a typical pellagra eruption, although not so distinctly

marked as some of the others, due to the fact that she had kept out of the sunshine most of the time. She had no means of procuring anything other than the scantiest food. She was told to take lime-water in the usual dose, but due to not remembering instructions took only one tablespoonful at each dose.

This patient (Sept. 7th, 1931) says she feels much better than at the time treatment was begun, that her appetite is good and there is no stinging or burning present. She has not made as much progress in clearing the skin lesions as the other patients who have taken more lime-water.

PREVENTING MIDDLE EAR DISEASE

(S. G. Zemer, Lincoln, Neb. State Med. JI.)

The tube in children is shorter and wider, with the tympanum or middle ear orifice, level or below the level of the pharyngeal orifice. This factor explains why it is so easy to get foreign-body (wood, etc.) inflammation of the ears in babyhood and childhood. A baby lying on its side or back and being fed is extremely susceptible to such traumatism, as the act of swallowing opens the short, wide, direct tube, hence foreign matter may easily arrive in the tympanic space.

Tears and mucus are much more potent than are the common chemical antiseptics in the strength in which they are employed; then good therapeutics would invite an increased flow of mucus in all beginning infections. Nature does this; but empirical man feeds the patient rhinitis tablets or atropine to dry up the cold and hence defeats nature's purpose.

Infected sinuses are a great source of tubal and tonsillar infection, which is daily being demonstrated.

The eustachian tube is the potent source of middle ear infection and of certain types of acute and chronic deafness. Its protective features are: (1) its normal inflammatory reaction; (2) its ciliated action; (3) its mucus supply; (4) the reticulo-endothelial tissue pervading its month; (5) the lymph nodes in the mouth and the fossa of Rosenmuller.

Squeezing a child's nose and saying "blow your nose" with the resultant backfire into the tubes of the ears causes a lot of grief. Diving and then blowing the nose in the same bad manner is a bad thing for ears.

Mineral oil is more helpful as a carrier for what few medicaments are needed in the tube.

THE UNIVERSITY OF LONDON CONTAINS 12 MEDICAL SCHOOLS—St. Bartholomew's Hospital, Charing Cross Hospital, St. George's Hospital, Guy's Hospital, King's College Hospital, London Hospital, St. Mary's Hospital, Middlesex Hospital, St. Thomas's Hospital, University College Hospital, Westminster Hospital and London School of Medicine for Women.

A Neglected Opportunity For Postgraduate Study

C. C. CARPENTER, M.D., Wake Forest, N. C.

Department of Pathology, Wake Forest College School of Medicine

There is no work that requires more constant study and application than the practice of medicine. Some few apparently never care to read the current journals, or attend clinics or medical meetings. These individuals seem not to realize that receiving a diploma from a medical school only means that they are entitled to practice the profession and continue with their studies. Some have advocated that we should be required to repeat the examinations given by the Board of Medical Examiners every five years in order to determine whether we are competent to continue in the practice of medicine. To say that Medicine is not an exact science is not telling the entire story. It is most certainly a constantly changing science. The physician who is not striving constantly to better his knowledge of Medical Science is not a true physician.

As early as the time of Herophilus (320-250 B.C.) it dawned on the men of science that they could better their knowledge of the many peculiarities of disease by opening the dead body and studying the changes brought about by different diseases. Even as far back as the time of Moses we find that the Jews examined the flesh of animals used for food to determine whether they were diseased. The first autopsy performed in the Western Hemisphere was at Montreal in the year 1535 during the prevalence of some unknown epidemic. Dr. Louis B. Wilson says, "I doubt very much whether any physician can maintain a high degree of efficiency, no matter how skilled, with a low percentage of autopsies".

It seems strange that it should be necessary to call the attention of medical men to the value of their most convenient method of post-graduate study, unless as Bonetus says, "No less blame is applicable to those delicate physicians who from laziness or repugnance love better to remain in the darkness of ignorance than to scrutinize laboriously the truth". The autopsy is the oldest method of medical teaching. It was used in a very commendable way by Morgagni, the father of modern medicine. And the great and wise Osler spent the

first nine years of his training studying morbid anatomy. Virchow, in his very careful and scientific manner, lifted German Medicine to the envious place it holds today. The records of the medical schools of Alexandria 300 years before Christ would put to shame some of our leading institutions of today. We find that the recognized leading schools and hospitals show the higher percentage of autopsies. In 1925 the Mayo Clinic autopsied 86 per cent. of the patients who died; in 1924 Johns Hopkins Hospital autopsied 84 per cent., in 1925 St. Agnes Hospital, Baltimore, autopsied 80 per cent. Why should Rochester or Baltimore have a higher percentage of autopsies than Raleigh, Durham, or other North Carolina cities? Some would advance the argument that they are better prepared to do them and their position is more respected; but we find Dr. Frederick C. Smith of Marion, Ohio, a city of 34,000 doing 87.5 per cent. in private practice in 1927.

The obtaining of permission for an autopsy should be relatively easy for the physician who is familiar with the case and who, naturally, is respected by the relatives. There is no set formula by which a permission may be received, but in the great majority of the cases a careful explanation of the advantages would suffice. Most human beings are anxious to help someone else. We should impress upon them the fact that by comparing the symptoms and signs with the changes that have taken place in the organs involved, information may be gained that will prevent thousands from suffering or dying from the same illness. What would we know today if the physician and public of the years that have gone before had not seen the opportunity of studying diseased tissue and passing their knowledge down to us? It is true, an autopsy does not always clear up the unknown, but without one it is never cleared up. The laity should also realize that an autopsy, so far as the technic is concerned, is nothing more than an operation performed after death. People often think of an autopsy as a horrible

mutilation of the body of the dead relative, but we do not object to an incision being made during life or the incision necessary for embalming. Of course an autopsy is often more extensive than any of these, but we have the advantage of the fact that the body is lifeless and does not suffer as a result. In my opinion, the trouble is not with the laity, but with us, as physicians, who should do all in our power to relieve human suffering whether the benefit is for today or a hundred years from now.

MAKING MORE POST MORTEM EXAMINATIONS

(A. Yaguda, Newark, JI. Med. Soc. of New Jersey, Aug.)

I have been able to obtain permission for autopsies in many instances because of the knowledge that Dr. So-and-So, or his wife, or son, had also been subjected to this type of examination.

Perhaps the most important ally of a hospital wishing to do autopsies is the undertaker. In several talks to the Association of Funeral Directors of our county, I squarely placed before the members the fact that the autopsy was inevitable if the hospitals of the county were to continue to be recognized as standard scientific institutions, and appealed to their sense of civic pride in these institutions. The problem as it applied to them was considered. They must receive the body of the deceased in proper condition for embalming and they must be given consideration as to time. Life-like appearance cannot be accomplished without proper embalming of the face and to get this, the circulation must not be disturbed. I have adopted the method of closing by sutures the ascending aorta where it is cut off from the heart, and tying-off the beginning of the descending thoracic aorta so as to form a small cup containing the large vessels of the arms and head. If the brain has been removed the carotids are tied inside the skull, and the base of the skull is sealed with plaster of paris. The body is then rendered free from leakage by tying-off the trachea, the esophagus and the rectum where they are cut, and by sewing up all openings communicating with the exterior. After sponging dry a hardening compound is put into the abdominal and thoracic cavities.

Personal talks with funeral directors who call at the hospital, and consideration for their feelings and time, have made many of these gentlemen so friendly disposed toward autopsies and our institution that they have often obtained permission for us when all our own argumentative resources had failed.

In broaching the subject of autopsies, I have found it advisable to pick one responsible member of the family rather than address myself to the entire group. We discuss the possibilities of the cause of death from the clinical findings, being always careful to leave a question of doubt as to the actual under-

lying causes of fatal termination. Then we discuss the family; how many brothers, sisters or children does the deceased leave? How did the father, mother and grandparents die? Is there any history of similar conditions in these deaths? In cases of infection or blood conditions, how close contact was there between the deceased and his relatives? The solution is then offered. The hospital is no longer a place solely for the treatment of disease; it has now assumed the role of a preventor of disease. The hospital offers its resources and services to the family. It proposed to conduct a postmortem examination, and asks the family's co-operation and permission. This examination, understand, is done chiefly for the benefit of the family. The family is requested to return to the hospital in a period of about 2 weeks to discuss with the attending physician or the pathologist the results of the examination, and to receive advice as to any tests or examinations they may recommend.

Should the question of the technic of the procedure be brought up by the relatives, they must be reassured "we do nothing that will in any way interfere with the proper burial of the body, or in any way be visible to either the family or to the people viewing the body."

I have seen interns become very proficient in obtaining autopsy permission. A most important requisite in the person requesting autopsy is that he, himself, be thoroughly convinced of the importance and value of postmortem examinations.

HONESTY

(B. G. Budge, Ames, in JI. Iowa State Med. Soc., Sept.)

Honesty in medicine is the endeavor to give your patient the care and advice that you would desire if you, like he, were handicapped by disease, incapacitated by sickness, maimed by injury or harassed by fear.

The venereal victim is looked upon as legitimate prey. His gonorrhea is overtreated, his syphilis undertreated, and he is usually overcharged. A fee of \$5.00 for blood that is examined by the State for 50 cents, and one of \$15.00 to \$25.00 for injecting neosalvarsan that costs us 85 cents, places a financial barrier before him that he can not easily scale. No wonder he stops treatment as soon as the evident symptoms of his syphilis disappear: this disease that had better be *untreated* than *undertreated*.

Honesty in medicine demands honesty of effort as well as honesty of intention.

An honest fee is one that is not burdensome to the patient; one that leaves him feeling free to come back without fear of being fleeced. A patient or prospective patient, has the right to know what his expense will be. When this can not be stated definitely, it is reasonable and honest to tell him that your charges will be made *satisfactory* to him.

Shall We Operate on the Acutely Inflamed Gall-Bladder?*

HUBERT A. ROYSTER, M.D., Raleigh, N. C.

As a prelude to the more important papers to follow, I have the privilege of introducing this symposium by a brief discussion of a moot problem, which is now coming up very emphatically in the minds of many surgeons, namely, the management of acute gall-bladder inflammations.

I have raised the question here as to whether we shall operate upon the gall-bladder when it is acutely inflamed. In the words of one of our heroes when he was on the stand, I might say this question can be answered "Yes" and "No", mostly "No". But if you will allow me the privilege, which the physician has in such a situation, of qualifying my answer, I think we might arrive at the proper condition of mind in regard to this affair.

Seven years ago I prepared some notes on this topic and until recently I never had the courage to present or publish them. In the light of increased experience, I am convinced that in our conservative attitude toward acute inflammation of the gall-bladder, we have been neglecting some golden opportunities and, if you please, in a more homely way, we have been missing a few tricks. We have been waiting for the attack to pass, waiting too long, allowing the disease to progress to an acutely suppurative stage, either gangrene or perforation, or to become chronic, with repeated attacks; often allowing the crippling of distant vital organs and the occurrence of jaundice.

The question might be raised in the beginning, as it has been by a previous speaker, whether there is an analogy between the gall-bladder and the appendix, in respect to acute inflammation. While I believe there is an analogy, at the same time I am convinced that it is not complete. The gall-bladder is supposed to have a function; I think the research men are still debating that function, but it does apparently in a normal state play some part, perhaps only to concentrate the bile as its chief function and it also has a physiological apparatus. But when we assume contrary to this analogy that the gall-bladder does not

perforate, does not distend or become gangrenous, we will have some patients who will die when they do come to operation or even without it. Acute cholecystitis is one of the things that is presented as a so-called acute condition of the abdomen, an emergency. Now this inflammation of the gall-bladder may be mild, as it is in most types of the disease, or it may be severe and permanent from the first. The mild ones may be allowed to subside, as you perhaps may do in cases of acute appendicitis, that always show a tendency to get well unless something disastrous is produced by harmful treatment; but also to get well and to recur, as in the case of appendicitis. We believe once appendicitis, always appendicitis, until the little assassin is executed.

But in the gall-bladder we have the same condition only rarely. We are accustomed, and it has been the law in the surgical profession, to say, "Well, we'll wait for this attack to subside"; and again that it is dangerous and positively harmful to operate upon the gall-bladder when it is in the acute state of inflammation, for fear of infection, the fear of disturbing the upper abdomen. But the operation may be considered in these mild cases in the early part of the attack and either after the attack has just passed off, or even in the stage of acute inflammation, without disaster taking place, if you get them and operate upon them early enough.

In the severe types immediate operation may be necessary to postpone the later catastrophe and to prevent the occurrence of jaundice, and perhaps to save life. I refer chiefly to those cases with all the symptoms and signs of acute inflammation, pain, elevated temperature and pulse, with increased white-cell count, tenderness and spasm over the gall-bladder. That is our picture. In such cases the gall-bladder is distended, the cystic duct is occluded and practically always the organ is obstructed by a stone. We do not often see these persistent acute manifestations of the gall-bladder, the so-called cholecystitis without stones; they practically always be-

*Presented to the Section on Surgery, Medical Society of the State of North Carolina, meeting at Durham, April 20th, 21st and 22nd, 1931.

come chronic, or tend to do so. This type presents a perfectly definite picture similar to the acutely inflamed appendix. Now, these cases may come to the emergency ward, or in private practice, as an "acute abdomen", and I believe that they must be at least considered potentially dangerous because of the tendency either to rupture into the free abdominal cavity, or to be walled-off after the perforation, sometimes with an abscess in the liver or alongside the gall-bladder. We have seen these cases, but fortunately, they are not common, we grant that they are rare; and yet at the same time there is the rapid distention of a thinned-walled gall-bladder causing pain which may not be easily controlled by morphine—they require large doses sometimes. Pancreatitis of greater or less degree of severity may supervene sooner or later.

Our teaching has been to allow these cases to subside so that operation may be performed when acute inflammation is not present. There are two advantages, of course, in this; the patient stands the operation better, and there is a chance to do a cholecystectomy rather than a cholecystostomy. I don't know whether many of you have seen this, but I have, and certainly on several occasions: the existence of an acute gangrenous appendix and acute cholecystitis at the same time. I had an experience once in a case in which we found such a condition of the appendix and at the operating table the medical consultant was concerned with me in the question which came up. Through the incision we recognized the acutely inflamed gall-bladder, edematous, fluid around it, almost ready to burst. According to custom the consultant advised non-interference with the gall-bladder; I was perfectly willing to follow the custom, and I considered it good advice; so we closed up the abdomen after removing the acute gangrenous appendix. Five days later this man had a violent "bile peritonitis" and two days later we re-opened him to drain the gall-bladder, but he died of a cholemia within seven days of the operation. I don't know whether it would have been better to have gone in at the time and either drained the gall-bladder, or perhaps removed it if feasible. But certainly our procedure was according to teaching.

I have this to say about the mild types that we all see which may be operated upon in the late acute stage; the gall-bladder comes

out of its bed, is easily removed, instead of being held by the firm dense adhesions which you encounter with the more chronic types. If any of these gall-bladders are treated in the truly conservative manner, one of three things is going to happen; first a subsidence of the infection without any destructive process; second, perforation with local abscess or with a general peritonitis; or third, recurrent attacks leading to the chronic stage. I doubt very much our ability to predict what may be the outcome in a sane enough manner to warrant waiting in all cases on the ground that the first of these events, that is, the subsidence of the process, will take place. Mind you, I am not advocating operation upon the gall-bladder in its acute inflammatory stage in all instances, but I do say that we must meet this question, and not wait until the complications occur before we advise operation. In cases years ago we waited till the abscess occurred around the appendix, and in the case of the gall-bladder we have been waiting for jaundice in the past years. Now, I think, we may revise the rule and become at least inclined to operate in the early stages.

STAFF (IMMATURE CELL) COUNT MORE IMPORTANT
(Arthur Weiss, New York, in Archives Int. Med.,
Sept.)

The leucocytosis caused by acute infections is primarily the result of stimulation of the bone marrow. This reaction of the bone marrow is a nonspecific, biologic phenomenon that depends not only on the type of organism, but on the degree of irritation caused by bacterial toxins. The neutrophilia thus brought about shows a varying percentage of *immature* or *staff* neutrophils, depending on the severity of the toxemia and the ability of the bone marrow to respond to it.

The peak of the staff count and the height of the infection usually coincide.

The peak of the staff count drops as soon as the infectious process is removed or overcome.

The persistence of a high staff count usually means a complication and may mean that the infection is becoming subacute or chronic.

The persistence of a high staff count without the possibility of removing the infectious focus usually indicates a fatal outcome.

The presence of a high staff count early in the course of lobar pneumonia usually is indicative of a fatal outcome.

The curve of the daily staff count is more accurate as an indication of the course of the infection than the chart of the temperature.

The staff count is more reliable than the leucocytic or polymorphonuclear count.

Chronic Cholecystitis Without Stones*

Based on a Study of One Hundred Consecutive Cases

J. D. HIGHSMITH, M.D., F.A.C.S., Fayetteville, N. C.

Surgeon, Highsmith Hospital

In recent years, I have been especially interested in the chronically infected gall-bladder without stones, and have become astonished at the frequency with which chronically diseased gall-bladders are diagnosed and treated as flatulent indigestion, heart disease, chronic constipation, gastric ulcer, etc. Consequently, we have taken 100 consecutive cases in which we did a cholecystectomy and have attempted to analyze them. We were successful in following up 82 per cent. of the cases; several live in and around Fayetteville, and we frequently see and talk with them. There was one death in the series, from coronary thrombosis, on the 7th post-operative day, making a mortality of 1 per cent.

Chronic cholecystitis without stones is a much more frequent disease than has been heretofore believed. It seems to take the place in the upper abdomen that chronic appendicitis does in the lower, and while not so treacherous and deadly in its sudden attacks as the inflamed appendix may be, it, nevertheless, often undermines the patient's health and frequently leaves its effects on other organs and tissues. It seems that cholecystectomy is as well borne by the human system as appendectomy.

The profession has been much enlightened on the function of the gall-bladder by the valuable work of Graham, whose cholecystographic studies determine disturbed physiology. It is now well established that the gall-bladder secretes a clear, colorless, viscid mucoid material. If drained continuously, in man this amounts to slightly more than 20 c.c. per day.

That the gall-bladder has the power of absorbing water and concentrating bile, under normal conditions, has been established beyond a doubt, by the quantitative experiment of Rous and McMaster. The standard teaching for a century has been that the gall-bladder is a storage house for bile, and it is

undoubtedly true that the reservoir function of the gall-bladder assists digestion by storing the bile formed during the interdigestive period. Pavlov referred to this stored and concentrated bile as the ignition bile. Ivy, in his *Newer Physiology of the Gall-bladder*, says this is a very reasonable view, since we know that bile plays an important part in the digestion and absorption of fats and that the fats are active gall-bladder evacuants. This function is not essential to the proper digestion of fats, because normal digestion occurs in the absence of the gall-bladder. This fact, however, does not gainsay the role that the reservoir function of the gall-bladder may play in normal digestion.

Some believe that the gall-bladder has a biliary duct pressure regulation function; proven by the fact that the biliary ducts dilate following cholecystectomy, and that the resistance offered by the sphincter of Oddi is less in animals without gall-bladders.

ETIOLOGY

The condition is said to be met with most frequently in stout, middle-aged women who have borne children, and whose most common complaint is indigestion, gas on the stomach, and a sense of weight in the epigastrium, "like a lump of lead." These symptoms are associated with the taking of food, coming on often before the meal is finished and persisting, in spite of reduction of diet to a minimum, but is definitely worse after ingestion of certain foods, usually fatty substances.

In our cases, only a small percentage were fat, and of the 73 women, 44 (a little more than half) were married and had borne children. Seventeen were married, some for many years and had never borne children. Pregnancy and obesity are strong etiologic factors in cholesterosis of the gall-bladder, which is considered by many to be a definite clinical entity; still in chronic cholecystitis, exclusive of the cholesterosis of the gall-bladder, they play a minor role, except for

*Presented to the Section on Surgery, Medical Society of the State of North Carolina, meeting at Durham, April 20th, 21st and 22nd, 1931.

the traumas and infections sometimes occurring with pregnancy and labor.

Several predisposing factors are of importance. The youngest patient was 14, the oldest 65, giving an average age of 34. In this series there were 73 women and 27 men, the ratio of women to men being slightly greater than three to one. This is a smaller percentage of women than is usually the case. Sixty-one of the 73 women were married and 44 had borne children. There were 11 colored women and 5 colored men; the majority of these were full-blooded negroes.

A history of typhoid fever was obtained in .0 per cent.; in 22 per cent. there was a history of at least one severe attack of influenza, several having had influenzal pneumonia. Fourteen per cent. gave histories of severe attacks of malaria, and one had had yellow fever; 4 per cent. had been operated upon for appendicitis. At operation, the appendix was found definitely diseased in 92 per cent. of the cases and there were inflammatory conditions present in the lower abdomen in 38 of the female patients operated upon.

It seems from this survey that infection is the cause of most, if not all, the cases of cholecystitis without stones. Deaver says the organ becomes secondarily infected by organisms which may be carried by several routes, notably the blood stream, the lymph channels and the bile stream, and also by direct extension through contact with a neighboring diseased viscus. Deaver has consistently advocated the lymphatic route from the liver as the most frequent pathway, basing his conclusion on the association of hepatitis with practically every gall-bladder removed.

Infections in the body, as a rule, travel by way of the lymph vessels, and there is no reason why infection of the gall-bladder should present an exception to this rule. There is a free lymphatic connection between the liver and the gall-bladder. Some assert that the infection spreads to the gall-bladder by way of the lymphatics from a primary hepatitis.

The work of Graham, confirmed by Moynihan and others, makes it certain that hepatitis is usually associated with cholecystitis and probably is the earlier condition. The liver is known to have an important function in the distribution of bacteria brought to it by the portal circulation from the intestinal tract.

The extension of infection is probably most common along the lymphatics to the subserous layer of the gall-bladder and to closely associated structures, such as the duodenum, stomach and pancreas.

Wilkie has proven experimentally that the predominant infection in gall-bladder pathology is without doubt a streptococcal one, and it would appear to be blood-borne; for cholecystitis results after intravenous injection of such streptococci, even when the cystic duct is ligated, the gall-bladder separated from the liver, and omentum interposed between the liver and gall-bladder. He says the organisms can be isolated from the submucosa and outer coats, leaving the mucosa intact. Bacteria were also cultured from the cystic gland; the bile in all but a few cases was sterile. Prior to this experimental work Wilkie, himself, had always taught and demonstrated the important part the lymphatics play in gall-bladder disease. This work of Wilkie's must change our conception of gall-bladder pathology.

I am now thoroughly convinced that the appendix is one of the most important etiologic factors in chronic gall-bladder disease without stones. In this series, chronic pelvic inflammatory diseases rank 2nd in importance to appendicitis, and influenza 3rd, as an etiologic factor.

DIAGNOSIS AND SYMPTOMS

The picture during exacerbations of acute cholecystitis and in cases associated with gall-stones is characteristic, but exact diagnosis in chronic cases is rendered difficult by a lack of uniformity of clinical symptoms. Such variation is due largely to the presence of concurrent pathological tissue changes in other organs with corresponding commingling of functional changes and symptoms. The symptoms in those cases without stones are usually milder and less typical. Indigestion, bloating and belching, without definite colic often occur, and here our experience coincided with Judd's, in that this type of patient is less liable to get complete relief of symptoms from surgery, even though at operation there is definite pathology of the gall-bladder.

The following signs and symptoms were found in the cases reviewed:

Average duration of symptoms	5 years
Tenderness in upper right quadrant at Murphy's point, on deep pressure.	91%

Pain and soreness in epigastrium or upper right quadrant	85%
Indigestion, gas and sensation of undue fullness after eating	81%
Radiation of pain to shoulder and back, usually	55%

Character of Pain

Dull aching	69%
Knife-like or cutting	20%
Nausea present	34%
Vomiting	24%
Jaundice present	6%
Duodenal ulcer present	8%

Jaundice, which was formerly regarded as a frequent symptom of cholecystitis, is seen to be uncommon, appearing in only 6 per cent. of the cases. The importance of pain in the upper right quadrant is seen in its incidence of 85 per cent.; but of almost equal frequency are the gastric symptoms, indigestion, etc., present in 81 per cent.

It is interesting to note that the most constant sign was tenderness at Murphy's point, elicited by having the patient take a deep breath, and then exerting pressure during expiration. The eating of fatty foods and large meals seem to be often associated with indigestion, though usually the pain had no definite time relations to the meals, sometimes coming on at night and causing sleeplessness and fatigue.

The pain and indigestion varies from time to time in the same patient and also varies in different patients, resembling kidney colic, gastric and duodenal ulcer, appendicitis, or any other abdominal cause of dyspepsia. This is due to the close relation between the abdominal organs through their reflex nervous mechanism and the frequency with which there is a coexisting appendicitis, duodenal ulcer, and pelvic inflammatory disease.

Alvarez, in his study of the mesenteric reflex, explained that the presence of abnormal irritants in the intestines causes reverse peristalsis, rushing gas, bile and even food back into the stomach. The insufficient and abnormal bile for proper digestion and lubrication in the bowel is easily sufficient cause for such reversed peristalsis, with resulting gas eructation, nausea or vomiting, as well as for the epigastric pain or symptoms of the typical so-called ulcer histories which are so common.

Lian emphasizes the role that cholecystitis without stones may play in the etiology of

grave heart disturbances. They range from palpitation, extrasystoles, arrhythmia, paroxysmal tachycardia and protracted syncope, to angina pectoris and sudden death.

The diagnosis of certain cases of chronic cholecystitis is unquestionably difficult. In the history we must bear in mind the fact that often the disease begins in early adult life and that appendicitis, inflammatory diseases of the pelvis, influenza, tonsillitis and epidemics of colds leave many cases of cholecystitis in their wake. Tenderness in the gall-bladder region is a most important finding. This is best elicited by inserting the tips of the fingers well under the right costal margin and asking for a deep breath; at all times comparison is made with the opposite side.

The roentgenogram may show an enlarged gall-bladder, pressure defects in surrounding hollow viscera, or the effects of adhesions; but its value has been greatly increased by the work of Graham and Cole in developing their method of cholecystography. This test shows whether or not the cystic duct is patent, and if so, shows the size, shape and position of the gall-bladder, its motility and its ability to concentrate bile, and greatly increases the number of cases in which stones can be demonstrated.

Gall-bladder infection, next to appendicitis, is the most frequent of all abdominal infections. In some classes of people, notably the obese, middle-aged multipara, it is more frequent than appendicitis. It is the second greatest cause of chronic indigestion. Inflammation of the gall-bladder may develop during the 1st and 2nd decades, but as the local symptoms are obtrusive, the condition usually escapes recognition; after middle age the local symptoms predominate and the diagnosis of gall-bladder disease is then made.

Study of the liver function, blood chemistry and cholecystographic examination reveals much useful information; but often a diagnosis will mainly depend upon a systematic history taking and a careful physical examination.

TREATMENT

It seems to be the consensus of opinion that gall-bladders should be surgically drained only when a more formidable procedure, such as cholecystectomy, would be too great a risk. Judd says he has never seen harm come from the absence of a gall-bladder, in spite of the

theoretical objections that have been advanced against its removal.

Wilkie, in his lecture before the Inter-State Postgraduate Assembly, 1929, says that an indolent but persistent infection of the gall-bladder wall may be the focus from which secondary infections may travel, first by the lymph and then by the blood stream to fascial planes, joints, heart muscles and kidneys. So clear is the association of a chronic gall-bladder infection with certain forms of so-called rheumatism that signs of cholecystitis should always be sought for in the investigation of this group of cases.

If we regard all gall-bladder infection as being an indolent but persistent infection in the deeper layers of the wall, and not an infection of the mucosa or of the contained bile, then it seems that the question of treatment is settled; for while drainage may give temporary relief from symptoms, it will not eradicate the infection of the gall-bladder wall, nor will it give that complete restoration to comfort and good health which a cholecystectomy usually insures.

In this series of 100 cases, all had cholecystectomies. In 19 cases, it was possible to do the so-called ideal cholecystectomy with peritonealization of the gall-bladder area and closure of the abdomen without drainage. The appendix, plus the gall-bladder, was removed in 94 cases, and the appendix had been previously removed in 4 cases; in 2 bad-risk, jaundiced patients, it was thought best not to bother with the appendix. In 6 cases, the common bile-duct was drained with a Deaver T tube, for from 2 to 4 months, for chronic pancreatitis and hepatitis; all were, or recently had been jaundiced. In 2 cases previous cholecystostomies had been performed.

The additional operations performed for diseases or conditions other than gall-bladder disease are as follows:

Three Complete Hysterectomies—for pelvic inflammatory disease with badly torn and infected cervixes.

Three Supravaginal Hysterectomies—for pelvic inflammatory disease.

One Complete Hysterectomy—for a myomatous uterus with cystic degeneration of both ovaries.

Two Supravaginal Hysterectomies — for fibromyomata.

Unilateral Salpingectomies and Oöphorectomies were performed six times; while

Salpingectomy with retention of at least one ovary, was the additional operation in eight cases.

A Suspension operation for an extreme degree of retroversion with some pelvic adhesions, was carried out in five cases.

Seven Trachelorrhaphies were performed, usually a conical excision of the cervix and endocervix.

One Umbilical Hernioplasty and one Inguinal Hernioplasty (indirect) were done.

There were six Gastroenterostomies performed for duodenal ulcer.

Spinal anesthesia is, I believe, much to be preferred above any other, in the gall-bladder patient; this form of anesthesia was employed in 32 per cent. of the cases in this series, with excellent results. Crile says that spinal anesthesia makes the division between the autonomic nervous system and the brain complete; consequently, there is less shock, relaxation is perfect and there is less trauma.

Questionnaires were sent to the 100 patients and we succeeded in following up 82 per cent., leaving 18 per cent. who could not or would not answer or return for examination.

One ulcer patient had a persistent bleeding type of ulcer on the posterior surface of the duodenum with the pylorus adherent to the gall-bladder site; he had a partial gastrectomy recently performed elsewhere and has been symptom-free and doing nicely since. Another of the ulcer patients has a small ulcer on the posterior wall of the gastrojejunal stoma and is now under medical treatment.

Results	
Excellent	46%
Satisfactory	25%
Unsatisfactory	11%
(Includes two ulcer cases, mentioned)	
Not found	18%
	100%

From the table it is sure that in 46 per cent. of the cases excellent results were obtained, *i. e.*, they are entirely free from the complaint for which the operation was performed, and are very much pleased with the results of the operation.

Satisfactory results includes the patients who show improvement but still have some digestive disturbances, being not entirely symptom-free.

The 11 per cent. unsatisfactory results are of those patients who continue to suffer from

the same symptoms without improvement. Two say they are worse than before operation and think the wrong operation was performed.

I believe the 18 listed as not found are the ignorant and illiterate whites and blacks, many of whom can neither read nor write, and probably some of the best results are in this group.

The unimproved cases are those in whom the symptoms were mostly of the dyspeptic type with little if any tenderness over the gall-bladder region; but the main factor in the failure to relieve most symptoms is the existence of long-standing and far-advanced pathological changes not admitting of operative correction or removal, such as far-advanced hepatitis, pancreatitis etc.

The problem of treatment of cholecystitis is not a question of medical treatment as opposed to surgical, but rather coöperation between the medical man and surgeon, just as in gastric and duodenal ulcer.

As a general plan, the uncomplicated cases of chronic non-calculous cholecystitis, after a complete diagnostic survey, should undergo careful medical supervision, during which time focal infections are radically removed, gastrointestinal function carefully regulated, diet supervised, rest, exercise and general hygienic measures insisted upon, drugs administered as indicated, non-surgical drainage of biliary tract carried out, if possible, and in special cases autogenous vaccines used. If, after a sufficient period, not of years, such measures have failed to remove the clinical and physical evidence of cholecystitis, or if after a period of relief, there is a recurrence of signs or symptoms, cholecystectomy should be advised. However, following cholecystectomy, medical measures should again be instituted.

With increasing accuracy in diagnosis, better results will be obtained from operative treatment.

CONCLUSIONS

1. While infection alone may not produce stone, still it does produce the non-calculous varieties of cholecystitis. This infection is rarely if ever a primary affair, but may be either by the blood stream, by the lymph channels, or by direct extension.

2. From the study of these cases I am convinced that the appendix is the most important etiologic factor in chronic cholecystitis

without stones. Chronic pelvic inflammatory diseases rank second in importance, with influenza third.

3. The coexistence of cholecystitis and duodenal ulcer is not rare and in operating for gall-bladder disease, a careful examination of the duodenum should be made.

4. The chronic dyspeptic patient without localized signs or symptoms receives little if any benefit from cholecystectomy. Tenderness at Murphy's point is an important sign and should be present before operation is decided upon.

5. Patients with advanced hepatitis bordering on cirrhosis or with pancreatitis are frequently unimproved by operation. These cases should have prolonged common-bile-duct drainage, if operated upon.

6. Following operation, medical treatment, consisting of a properly regulated diet, rest, exercise and in certain cases duodenal drainage, should be commenced and kept up for a period of months.

Bibliography

ALVAREZ, WALTER C.: Mechanics of the Digestive Tract. *Paul B. Hoeber, Inc.*, 1929.

BOARDMAN, W. W.: Treatment of Cholecystitis. *California and West. Medical Journal*, San Francisco, 1925, xxiii, pp. 714-720.

BRUCE, H. A.: Association of Cholecystitis With Duodenal Ulcer. *Annals of Surgery*, 1926.

DEAVER, J. B.: The Chronic Gall Bladder. *Canadian Med. Assoc. Jour.*, Toronto, 1928, xviii, pp. 666-672.

HAGYARD, C. E.: *Northwest Medicine*, Seattle, 1930, xxiv, pp. 230-235.

HEINECK, A. P.: Complications Incident to Operative Treatment of Inflammatory Diseases of Gall Bladder. *Virginia Medical Monthly*, Richmond, 1926, liii, pp. 603-611.

JUDD, C. S.: Cholecystitis and Cholelithiasis. *Northwest Medicine*, Seattle, 1926, xxv, pp. 167-171.

LIAN, C.: Grave Heart Manifestations in Gall Bladder Disease. *Abs. Jour. A. M. A.*, 1925, lxxxiv, p. 1532.

MATTHEWS, A. A.: Pathology and Diagnosis of Cholecystitis. *Northwest. Medicine*, Seattle, 1926, pp. 1-21.

LAWSON, DAVID J.: Diagnosis of Cholecystitis and Cholelithiasis.

MAYO, W. J.: Cholecystitis Without Stones or Jaundice in Its Relation to Chronic Pancreatitis. *Jour. A. M. A.*, Philadelphia, 1914, cxvii, 496.

MEYER, W.: Chronic Cholecystitis Without Stones—Diagnosis and Treatment. *Annals of Surgery*, Philadelphia, 1921, lxxiv, pp. 429-446.

WINTER, M. J.: Diagnosis of Gall Bladder Disease—Study of One Hundred Unselected Cases. *North-west. Medicine*, Seattle, 1926, xxv, pp. 478-81.

GRAHAM, COLE, & CIPHER, MOORE: Diseases of the Gall Bladder and Bile Ducts. *Lea and Febiger*, Philadelphia, 1928, pp. 163-184.

WILKIE, D. P. D.: The Etiology of Gall Bladder Infections. 1929 *Proceedings of the International Assembly of the Inter-State Post-Graduate Medical Association of North America*, pp. 373-374.

IVEY, A. C.: The Newer Physiology of the Gall Bladder. 1929 *Proceedings of the International Assembly of the Inter-State Post-Graduate Medical Association of North America*, pp. 379-380.

WHAT TO DO FOR FUNGUS INFECTIONS OF FEET, HANDS AND GROINS

(H. T. Phillips & W. J. Morginson, Wheeling, in *W. Va. Med. J.*, Sept.)

Fungus infections generally respond to proper therapy, although recurrences are common. These may be due to a reinfection from old bedroom slippers, walking barefooted on fungus-infected floors, etc., or they may be an exacerbation of persisting old infections. The nails, when involved, are a frequent source of reinfection.

(a) *For the acute, vesicular, oozing, inflammatory type:*

1. At the office open all vesicles, peel and cut away all dead skin, and instruct the patient to do likewise twice a day at home.

2. Soak the involved parts for 20 minutes out of every two hours in the following modified Burow's
R—Copper Sulphate 8.0
Zinc Acetate 40.0
Liq. Aluminum Subacetate.....q.s. ad. 500.0
Sig: Two tablespoons to one pint of water used as warm soaks.

One preparation may be used over and over again. There will be considerable burning and stinging at first, which, if severe, may be relieved by applying vaseline, cold cream, or olive oil after the soaks.

Recently, ordinary sodium hyposulphite has been recommended as soaks in the acute vesicular stages. One-third of a pound is added to one quart of water to make a 20% solution. The involved parts are soaked three or four times daily, the same solution being used over and over again. It is less expensive to the patient than the modified Burow's solution.

3. For excessive dryness during the night advise boric acid ointment, vaseline, or wet bandages of boric acid solution, two teaspoonfuls to one pint of water.

4. For the groins, a calamine and zinc lotion generally gives relief:

R—Prepared Powdered Calamine 16.0
Zinc Oxide 16.0
Glycerine 16.0
Rose Waterq.s. ad. 120.0
Sig.: Mop on areas as desired.

5. Continue this procedure until the vesicles have

ceased forming.

(b) *For the subacute type:*

1. Where there are only a few vesicles, as the initial treatment or following the preceding outline prescribe modified Burow's soaks night and morning, followed by mild Whitfield's ointment:

R—Salicylic Acid 1.0
Benzoic Acid 2.0
Rose Water Ointmentq.s. ad. 30.0
Sig.: Apply twice daily after soaks.

2. As the vesicles entirely disappear, discontinue the soaks and give medium Whitfield's ointment:

R—Salicylic Acid 1.5
Benzoic Acid 3.0
Rose Water Ointmentq.s. ad. 30.0
Sig.: Apply twice daily.

3. If there is excessive perspiration of the feet use:

R—Salicylic Acid 2.5
Boric Acid 50.0
Starch 25.0
Talcq.s. ad. 250.0

4. Depending on the severity of the infection, alternate between soaks, soaks and ointment, and ointment only. Open all vesicles and trim away all dead skin in all stages. Trim the nails closely to guard against possible reinfection.

(c) *For the chronic type:*

1. Prescribe regular Whitfield's ointment for night application:

R—Salicylic Acid 2.0
Benzoic Acid 4.0
Rose Water Ointmentq.s. ad. 30.0
Sig.: Apply at night.

2. Wash the ointment off in the morning and apply full strength, 7%, tincture of iodine. In the evening the ointment may be applied directly over the iodine.

3. For the nails, with persistent application the following may give relief:

R—Chrysarobin 1.2
Chloroform 30.0
Sig.: Apply with small swab.

This is to be applied between the nails and the paronychia tissues and discontinued at signs of inflammation. Tincture of iodine is also beneficial.

4. In extremely chronic types, when the palms and soles become cornified, it is advisable before applying medications to actually remove the thickened corneum by rubbing with sandpaper. This immediately promotes a smooth, soft, pliable skin and is very satisfying to the patient.

5. At times, this infection challenges all therapeutic ingenuity and many combinations of astringents, antiseptics and keratolytics must be tried before a permanent cure is obtained.

Röntgen rays unquestionably are of value in the treatment of fungus infections in all their stages, and, when available, are used with the various medicinal procedures. Successful and permanent cures are possible, however, without their use.

Some Phases of Gall-Bladder Disease*

D. T. TAYLOR, JR., M.D., and DEWITT KLUTTZ, M.D., Washington, N. C.
Washington Hospital

The preoperative preparation of patients with cholecystitis is equally as important as in thyroid and prostatic disease. Included in the preparation is the elimination of obvious foci of infection such as infected sinuses, abscessed teeth and infected tonsils from which the gall-bladder infection could have originated and which, if left undisturbed, are capable of producing disease elsewhere after the gall-bladder has been removed.

In reviewing our cases of gall-bladder disease for the past three years it was quite striking to note that the cases regarded as poor operative risks had done as well as, and in many instances much better than, those regarded as exceptionally good risks. We attribute this to the careful and thorough preoperative preparation given the cases regarded as poor risks. As a result of this observation we adopted a regular preoperative routine for all gall-bladder patients, regardless of what we considered the risk to be.

Naturally the chief object of the preoperative preparation consists in supplying the liver with sufficient glycogen to carry the patient through operation and prepare him for any unsuspected postoperative hazards that may arise. After a positive clinical and roentgenological diagnosis of cholecystic disease and the case considered operable, the patient is put to bed and the following routine carried out for the two days prior to operation: A high carbohydrate diet and forced fluids; a half-ounce of glucose to six ounces of orange juice four times a day; two days before operation 500 c.c. of 15 per cent glucose in normal saline intravenously. This repeated the next day and two hours before going to the operating room, or if gastric analysis has shown achlorhydria 3 per cent. is substituted for the normal saline. The jaundiced patients receive, in addition, 5 c.c. of 10 per cent. calcium chloride daily for three or four days prior to operation, which usually suffices to bring the coagulation-time of blood to normal. At conclusion of operation

hypodermoclysis of normal saline is started and continued until 8 p. m., when it is discontinued so that it will not interfere with the patient's rest. Just after its removal 500 c.c. of 15 per cent, glucose in normal saline is again given intravenously. Patients thus cared for have certainly had a much more rapid and pleasant postoperative convalescence and the mortality has been reduced.

The abundance of literature on the subject of postoperative morbidity in cholecystic disease can exert its effect in more than one direction. Careful, thorough and complete surgery is advocated by all, but the thoroughness should begin prior to operation. If there exists more than one pathological lesion every effort to ascertain the fact should be made before operation and this will eliminate a great deal of the intra-abdominal ransacking so conducive to ill consequences, immediate and remote. It is generally agreed that best results following cholecystectomy are had in cases of cholecystitis with stones where sufficient disease exists to produce the classical train of gall-bladder symptoms. It further seems that the highest percentage of failures following cholecystectomy occur in the so-called non-calculous cholecystitis. At this time of urgent request for early diagnosis and early surgical intervention, more and more of these mild non-calculous cases will come to operation. It is in these cases that careful and dependable intravenous cholecystography is of great aid.

We have not only found that the diagnosis is more accurate, but that it enables us to more intelligently evaluate the clinical symptoms and interpret the conditions found at operation. Occasionally, even with the abdomen open and the gall-bladder under the eye and in the hand, it is difficult if not impossible to be sure whether or not the gall-bladder is diseased sufficiently to demand its removal. Here an accurate knowledge of the patient's cholecystographic study and clinical symptoms is of great aid in arriving at a cor-

*Presented to the Section on Surgery, Medical Society of the State of North Carolina, meeting at Durham, April 20th, 21st and 22nd, 1931.

rect conclusion. We use the following classification in interpreting cholecystograms, employing the intravenous injection exclusively.

Grade 1, in which there is mild deficiency in concentration of the shadow and in these patients we advise therapeutic trials, or if operated on for other reasons expect this to aid the opinion of the surgeon as he inspects the gall-bladder; *grade 2*, in which there is further decrease or marked diminution of the shadow, calculi shadows seen or not, the roentgenological opinion is to remove such gall-bladders even if they appear fairly good to the surgeon at operation; *grade 3*, in which no shadow appears, and except in rare instances surgery is required; *grade 4*, impossible surgical risks as evidenced by the cholecystogram, liver function test, and physical findings. The latter may show a slight shadow or none at all.

The emptying function by the fat meal sometimes furnishes additional information.

We have had a ball-and-valve arrangement of a stone in the cystic duct which allowed grade-1 filling but no emptying, but all other cases in our clinic which have had a history of probably obstruction colic have shown grade-2 deficiency in dye concentration. Grade-1 concentration and failure in emptying was seen in three cases of obstructive duodenal ulcer, in which the fat meal was very slow in getting beyond the pylorus and so could not exert its emptying power. Posterior gastroenterostomy was satisfactory in all of these except one, who eight months later had what appeared to be an attack of cholecystitis with jaundice. We have observed a cholecystographic series in which there was gradual loss of concentration and in which the wall of the right colon was well outlined by the dye. This is probably due to its passage through lymphatics in organized adhesions between the gall-bladder and the hepatic flexure. Cutting such lymphatics during operation, before the dye has been eliminated from the biliary area, opens up these lymphatics and allows seepage of the dye-laden bile into the peritoneal cavity. We feel that one postoperative death preceded by a peculiar reaction was due to cholecystectomy 48 hours after injection of the dye.

Finding of deformities due to adhesions does not condemn a gall-bladder if its concentration function shows up normal or even in grade 1. It must be realized that sometimes nature has achieved better results by adhesions than we can hope to accomplish by surgical interference. Our practice is to

combine barium with the fat meal in such cases and study the relation to and condition of the neighboring parts. Duodenal ulcers are frequently attended by a gall-bladder which gives a grade-1 cholecystogram, but which turns out to be uninvolved.

The degree of concentration of the dye shadows is influenced by the functional capacity of the liver as well as of the gall-bladder and an inflammatory hepatitis may not have extended to the gall-bladder at the time of such examination or subsequent operation, a normal gall-bladder in a patient with a markedly inflamed liver being found, although definitely deficient cholecystograms had been presented.

Chronic infections originating in the appendix, and secondarily involving the liver and later the gall-bladder, may develop very slowly, similarly to biliary involvement in typhoid fever which sometimes requires years to produce symptoms. In cases with vague abdominal symptoms of long duration diagnosed as chronic appendicitis and operation advised with some degree of skepticism the possibility of biliary involvement must be considered. In such cases a positive or negative cholecystographic report aids us in deciding whether or not a gall-bladder should be removed.

In cases showing a grade-1 cholecystogram or mild dysfunction of the gall-bladder we think a trial medical treatment is permissible. This consists in proper non-irritating diet and one which will supply the liver with sufficient glycogen, regulation of habits, relief of the frequently found spastic constipation, and other measures that will promote liver drainage. These patients are kept under careful observation reporting at the hospital at regular intervals. It has been our experience that many such cases clear up and remain symptomatically well. The few that fail to improve are subjected to further roentgenological examination which usually assures us that the case is now one which requires surgical intervention.

In handling these patients in this manner we not only feel that the real operable cases are brought to operation in due time before irremediable damage is done in the liver, but we believe that such patients are much better prepared for operations after being under medical care for a while. We fully agree that many failures following cholecystectomy

are due to procrastination with medicine and this we in no way advocate. But, on the other hand, much good comes from an earnest differentiation between the operable and non-operable cases, in contrast to the promiscuous removal of gall-bladders not proven to be diseased, a practice which occupies a prominent place in the morbidity following cholecystectomy.

NITRITES IN GASTROINTESTINAL SPASM

(A. J. Beams, Cleveland, JI. A. M. A., Sept. 26, 1931)

From the few observations made it appears that the effect of nitrites on abdominal pain may prove a valuable aid in diagnosis. The pain presumably caused by muscle spasm, as in the cases of intestinal colic from dysentery, of lead colic and of spastic colitis, was relieved by nitrites, whereas the pain due to some inflammatory process with possible peritoneal irritation was not relieved. In the treatment of spasmodic conditions of the gastro-intestinal tract, sodium nitrite did not prove very satisfactory in the upper alimentary tract, but the results were quite gratifying in spasm of the colon. The symptoms were relieved quite promptly, whereas other therapeutic measures had failed. Belladonna was much more effectual than sodium nitrite in the treatment of cardiospasm and pyloric spasm. The relief of pyloric spasm with belladonna in some of the patients who showed considerable obstruction was quite striking. From the standpoint of diagnosis in roentgen examinations, nitrites are more effectual than atropine as an antispasmodic. Only in cardiospasm and pyloric spasm did atropine equal nitrites, and neither was very effectual in these conditions. Nitrites are preferable to atropine because they are much easier to administer, the action is more prompt, repeated examinations are unnecessary, and there is less discomfort to the patient.

TREATMENT OF NEPHRITIC EDEMA BY ACID

(F. H. Lashmet, Ann Arbor, Mich., JI. A. M. A., Sept. 26, 1931)

On the basis of his observations the author concludes that edema is not due to the failure of the kidneys to excrete water and is independent of the fluid intake. Edema is not due to the failure of the kidneys to excrete chlorides. Chloride as sodium chloride increases edema but as hydrochloric acid or ammonium chloride decreases edema. The reaction of the total ash intake is more important in influencing edema than the total amount of ash. Alkaline ash intake increases edema and acid ash intake decreases edema. In the treatment of nephritic edema, the author has used, during the past two years, a low protein, "salt poor" diet, with a neutral ash, to which are added acids or acid producing salts. The fluid intake has been "forced" rather than restricted. The clinical results have been very satisfactory.

VACCINE TREATMENT

(J. A. Kolmer, Philadelphia, in JI. S. C. Med. Assn., May, 1931)

Vaccines have proven of great value in the prevention of smallpox, rabies, diphtheria and typhoid-paratyphoid fevers.

Some success has attended vaccination against scarlet fever, pertussis, cholera, plague, bacillary dysentery, pneumonia, meningitis and the common cold.

Infections of bone are usually refractory and likely to yield unsatisfactory results.

The vaccine treatment of infections of the soft tissues is usually more satisfactory, and especially those due to staphylococci and streptococci, like furunculosis, asthma due to bacterial sensitization, etc.

The vaccine therapy of focal infections is deserving of wider application.

Removal or drainage of primary foci may be without therapeutic effect, if the secondary-foci are well established.

Extracted teeth and enucleated tonsils should be carefully cultured and autogenous vaccines administered as part of the therapeutic program, in the treatment of recurring iritis, chronic infective arthritis, neuritis, myositis, etc.

Especially good results from non-specific protein therapy have been observed in some cases of chronic recurring iritis, chronic gonococcus infections, infective arthritis, recurring erysipelas, neurosyphilis, etc. It has also been employed with success in the treatment of some acute infections, like pneumonia, typhoid fever, septicemia, etc.

IMPENDING INTRAUTERINE DEATH

(R. S. Titus, Boston, Amer. JI. Obs. & Gyn., Sept.)

I believe that the non-growth or the shrinkage of the uterus and the presence of a decrease or no increase in weight are the significant signs which point to impending intrauterine death. I believe that these signs should stimulate us at least to the consideration of the need of induction, and I believe that a certain number of babies now lost might be saved.

TREATING THE PNEUMONIAS WITH COLLOSOL IODINE

(R. V. Murphy, in Irish JI. of Med. Science, July)

Of a series of 30 cases of the pneumonias treated with collosol iodine intravenously administered, 27 patients recovered. Of the 3 who died, one was 86 with general dropsy; one 83 with pneumonia of the right lung who got on well till the left base became involved; and the 3rd was 56 and had been under treatment for 6 weeks for advanced myocardial degeneration.

How far collosol iodine will prove effective in the treatment of all types of pneumonia it is at present impossible to infer. But that it will have an important part to play in some varieties I have no doubt. Apart from pneumonia, I feel sure that the new solutions will find fields of usefulness elsewhere.

For a Four-County Tuberculosis Sanatorium*

L. A. CROWELL, JR., M.D., Lincolnton, N. C.

It is my purpose to discuss tuberculosis with particular reference to the layman's point of view, and to impress the tremendous importance of tuberculosis as a public health problem, as an individual problem and as a problem which should be faced and dealt with intelligently by the leaders of every community.

Tuberculosis, particularly tuberculosis of the lungs, is one of the greatest killers the world has ever known, and one which, when it does not kill, leaves in its wake a terrific total of human wreckage. Tuberculosis is one of man's most universal scourges, well deserving the epithet bestowed upon it by Bunyan and Osler as the "Captain of the Men of Death." It is estimated that one-tenth of all deaths are due to it, although during the past 60 years, due to improved social conditions, better education, segregation of tuberculous persons and earlier recognition of the disease by the medical profession, the death rate has dropped almost 50 per cent. Much has been done, but much remains to do, for it still takes a toll of 100 per 100,000 population each year.

The actual number of deaths caused by tuberculosis, however, falls far short of indicating the amount of suffering which results from it, for it is estimated that to each death 10 persons are suffering from the disease. Judging from mortality statistics for the past few years, about 110,000 persons will die from tuberculosis in the United States in the year 1931, which is 25,000 more than the number of United States soldiers who were killed and wounded in the world war. Based upon the estimation that 10 are sick with tuberculosis to every one that dies of it, today there are 1,000,000 persons in the United States suffering from tuberculosis.

To bring it a little closer home, the 1930 census gave Lincoln County a population of 22,872. Figuring on a mortality rate of 100 to 100,000, there will be 18 or 19 deaths from tuberculosis in Lincoln County in 1931. If 10 persons are sick from tuberculosis to every tuberculosis death, 190 are at present suffering from tuberculosis in this county. To carry

the calculations a little further, let us say that the average family in Lincoln County numbers six. This means that 1,150 are being continuously exposed, intimately and closely, to cases of tuberculosis, not to mention countless less frequent and intimate exposures, since many of these tuberculous individuals are going about among us, some of whom have no idea they are suffering from tuberculosis.

Even these figures do not tell all the story. By means of the tuberculin skin test we are able to determine whether or not there are living germs of tuberculosis growing within the body. Reliable statistics show that at some time in their lives a considerable percentage of all people have growing within their bodies living and active germs of tuberculosis. In several large eastern cities the following percentages of infection were found:

Age	%
Under 2 years	10
Under 3 years	20
Under 6 years	50
Under 9 years	60
Under 15 years	75

In North Carolina, where the population is predominantly rural, the percentage of infection does not run nearly so high. The Extension Division of the State Sanatorium, has found that an average of 19 per cent. of the state school children react positively to the tuberculin test, indicating the presence within their bodies of live tubercle bacilli. It is interesting to note that the smallest percentage of infection is found in the mountainous districts of the state, and the highest percentage in the thickly populated areas in piedmont and eastern North Carolina. Twenty-five to 80 per cent. of adults give positive reactions. It is considered a fact that the percentage of positive reactions is not nearly so great among adults now as it was 25 years ago.

In this connection I should like to answer a question which doubtless has arisen in your minds as to the difference between infection with tubercle bacilli as shown by the tuberculin test, and active clinical tuberculosis, or the actual disease. As a preliminary, the oppor-

*Presented to the Professional Men's Club, Lincolnton, September 21st, 1931.

tunities for tubercle bacilli to enter the human body and there find a suitable place for growth and reproduction, is, especially in the more thickly populated areas of the civilized world, boundless, and virtually omnipresent. In one patient recently treated at the Johns Hopkins Hospital who was studied over a period of several weeks, it was found that he expectorated, each 24 hours, $1\frac{1}{2}$ to $4\frac{1}{3}$ billions of tuberculosis bacilli. Before this patient had been admitted to the hospital he had taken no precaution to destroy his sputum, and it was shown that nine persons had unquestionably taken the disease from him—and the number who might have taken it from the germs he had scattered in the streets and public places, could not be estimated.

Imagine the quadrillions of bacilli continuously being thrown about by tuberculous individuals, countless thousands of whom do not know the first principles of prevention, and you begin to realize the universal opportunities for getting tubercle bacilli into one's body.

You may ask how it is that only one person in 40 who takes the germs into his body breaks down with the disease. There are at least five reasons: *1st*, there are at least four types of tubercle bacilli, all of which except the human type are of little importance as producers of disease in man; *2nd*, one group of tubercle bacilli is more potent than another, just as one man is stronger than another; *3rd*, a person who occasionally takes small numbers of germs into his body does not stand in as great danger of becoming infected as one who frequently takes in large numbers; *4th*, the environment, and *5th*, the individual resistance, a factor which varies much in different people.

Dr. William Osler, probably the greatest physician who ever lived, frequently answered this question of the difference between infection and actual disease by using the parable of the sower: " 'Some seeds fell by the wayside and the fowls of the air came and devoured them up.' These are the bacilli scattered broadcast outside the body, an immense majority of which die. 'Some fell upon stony places'. These are the bacilli that find lodgment in many of us, perhaps, with the production of a small focus, but nothing comes of it; 'they wither away because they have no root.' 'Some fell among thorns and the thorns sprang up and choked them.' This

represents the cases of tuberculosis, latent or active, in which the seed finds the soil suitable and grows, but the conditions are not favorable, as the thorns, representing the protecting force of the body, get the better in the struggle. 'But others fell on good ground and sprang up and bare fruit an hundred-fold.' " Of this fourth group were the 90,000 who died of the disease in 1930 in the United States—the soil suitable, the protecting forces feeble.

The important points to remember are two: *1*—that as long as tubercle bacilli are being produced and thrown carelessly to the four winds by people who are either too ignorant or too careless to take the precautions, we all stand in danger of becoming infected, and, *2*—that every infected case is potentially an active clinical case of tuberculosis.

In conclusion, I have not intended these few words to be an aimless discourse on tuberculosis. I have been trying to lead up to the answer to this question; What can we, as citizens of Lincoln County, do about it? What steps can we take to protect ourselves and make Lincoln County a safer and healthier place in which to live? There are two very definite things that we can do, and my purpose now is to stress the importance of these things and urge you to do everything in your power to bring them about. In asking for your coöperation and the use of your influence, I know the other members of the medical profession here will join me.

1—An effort is being made by the Catawba Valley Medical Society, composed of doctors of Lincoln, Catawba, Caldwell and Burke Counties, to have the Tuberculosis Sanatorium—erected, I believe, about four years ago by Catawba County and operated for a time as a children's sanatorium and preventorium, and recently closed for financial reasons—re-opened on a semi-charity basis, as a sanatorium for adult cases of tuberculosis, to be backed and used by the four counties concerned.

2—Lincoln County should have a tuberculosis clinic for school children and for adults, immediately. The state of North Carolina, through the Extension Division of the State Sanatorium, has these clinics conducted with the coöperation of local authorities.

The two actions I urge upon you. They are closely interrelated and I believe offer the best and most practical means for intelligently waging a campaign against tuberculosis in this

county. There are 5,400 children attending school in Lincoln County. Applying the general average for the state to this county, we might expect about 1,000 of these children to give positive tuberculin reactions. I cannot stress too much the importance of finding who these children are, *1st*, because it would enable these children to be treated at a stage of their disease when they can be cured and before they become infectious, and, *2nd*, it offers a means of discovering contacts in the homes of the positively reacting children. If you can show these adult patients that they are infecting their children or close relatives, it will be much easier to convince them of the value of going to a sanatorium or taking the necessary precautions to prevent spreading the disease.

The geographical location of a tuberculosis sanatorium has little or nothing to do with the successful treatment of tuberculosis, therefore the Catawba County Tuberculosis Sanatorium is capable of doing as much good as any of them, and its location near the geographical center of the area it would serve, would work for the contentment of its patients, especially the poorer patients.

Treatment in a tuberculosis sanatorium has two objects: 1—to treat the patient himself; and 2—to educate him about taking the precautions to keep from spreading the disease to other people. Ninety-seven to 98 per cent. of all tuberculosis is transferred from one person to another by means of sputum. It is safe to say that if all tuberculous sputum were destroyed, as it comes from the patient's mouth, tuberculosis would soon become a rare disease.

PROGNOSIS IN MENTAL DISEASE 100 YEARS AGO

(Abstract From Edinburgh M. & S. JI., 1836)

From the aggregate number of patients attacked for the first time with mania or melancholia, properly treated, and put under suitable restraint with three months after the date of the first attack, seven out of ten among the poor, and more of the rich will recover. In a selection made from the aggregate number of such recent cases of mania where the patient is under 50 years of age, where the nervous energy is strong, the circulation equable, the viscera sound, the intellectual powers tolerable, and no unfavorable circumstances occur, the author does not doubt that 15 out of 16 may be, and have been restored to reason.

Hereditary tendency predisposes to relapse. When

mania is produced by religious terror, or fear of punishment after death, recovery takes place as readily as from other causes of mental irritation, "but where the mind is intensely and exclusively occupied with the mysteries of religion, and the disease comes on slowly, and without fever, the patient imagining himself inspired with prophetic powers, recoveries are very rare."

Indeed from most kinds of monomania arising from whatever cause, when no fever or bodily disease attends the attack, not one in 10 recovers. Great cerebral injury is frequently occasioned by long continued application of cold to the lower extremities; mania from this cause frequently proves fatal. When mania arises without apparent cause, as frequently occurs where it is hereditary, the ratio of recoveries is often very considerable. From dementia he has seen but one case of recovery, and that a very recent one.

Maniacs recover more slowly and less frequently from the second and third attack, than the first, except it arises from occasional ebriety, fits of anger, or in half idiots. Mania tends materially to shorten life in all cases, except such as are unattended with ostensible corporeal disease.

TASTINESS AND ALCOHOL PROMOTE DIGESTION

Quoting Halliburton and McDowell's *Physiology*, 1931:

Carlson has shown that articles which are pleasant to the taste of the individual, evoke considerably more gastric juice than others. It is of considerable interest that mankind has gradually evolved an order of taking articles of food which is fairly physiological. The tasty *hors-d'oeuvre* or soup come early to stimulate secretion, in virtue of appetite secretion and of the effect of meat extracts. This is followed by the main protein course. Then comes the carbohydrate or sweet course; the starch, which by coming late, has all the more chance of being digested by the saliva. Last comes the fruit, which cleanses the teeth, and its acid promotes the secretion of saliva for furthering the digestion of the sweet. In addition we have cultivated the convention that it is a pleasure for individuals to dine together under conditions most favourable for stimulating the appetite and promoting a sense of well-being.

The consumption of alcohol with meals is a time-honoured custom. It used to be taught that this substance had no stimulating action on the gastric secretion, but since the introduction of the fractional method of investigating the gastric contents it has been found that dilute alcohol causes a very appreciable secretion of hydrochloric acid. There seems little doubt, also, that by paralyzing some of the higher mental mechanisms it promotes a sense of well-being and by drowning cares may be of much value in promoting digestion.

Typical Case of Disseminated Sclerosis*

JAMES ASA SHIELD, M.D., Richmond, Va.
Tucker Sanatorium

I have asked this patient to come here today, so as to present to you gentlemen what I consider a most typical case of disseminated sclerosis. L.D.—age 20—single.

Patient presented herself complaining of weakness in legs, unsteadiness in station and gait and blurred and double vision. History revealed the fact that in January, 1929, she was blind in the right eye for eight days. Three months later she was blind in the left eye for four days. Again four months later she had a good bit of vision difficulty in her left eye, but this cleared up before complete blindness. The intervals between the blindness, patient was practically symptom free. At present she sees double.

Past history revealed the fact that patient was often sick; ran an elevated temperature at times; had tonsillitis frequently until tonsillectomy and adenoidectomy when 12 years old.

Family history negative.

Examination revealed the following interesting neurological findings: Station unsteady and marked weakness shown on attempt to walk. Deep reflexes in arms and legs hyperactive, abdominal reflexes absent. There was a sustained clonus of both ankle and patella. General muscle tone was increased while muscle power was markedly decreased. There was a slight upper and lower ataxia. There was definite dysmetria and incoördination of movements more definite on the left. There was some slight twitching of the left eye and the left abducens was weak. The right pupil was larger than the left; there was slight irregularity in shape of the pupils and some nystagmoid movements. There was definite diplopia and marked temporal pallor of the disc.

When the patient was questioned about the weakness in her legs she stated a month and a half ago she first noticed a weakness in her left leg and she noticed that she was unsteady and staggered some in walking. This weakness was also noticed in the right leg a week or so later. During the examination she com-

plained of objective dizziness and stated that the walls of the room seemed to go around to the left. The patient's physician stated she had been running a subnormal temperature in the morning and in the afternoon her temperature was usually around 99.

The diagnosis in this case was arrived at, as the patient presented a picture of a remittent disease being ushered in with visual disturbances, later showing pyramidal tract involvements in the form of muscular weakness.

There has been much discussion in the neurological world as to the etiological factor. In 1913 Joseph Steiner of Heidelberg was quite sure, and to this day he believes, that the spirillum is the etiological factor; but, as we know, he and his fellows are alone in this consistent finding. Since 1927 Miss Chevassut, in the laboratory of Sir Jame Purves-Stewart, has been finding a filterable virus which they have given the name *Spherula insularis*. This ultramicroscopic organism has not been demonstrated in any other nervous disease. It is characteristically spherical and about 1/10,000 the diameter of a red blood corpuscle and seen only with the ultramicroscope.

In regard to treatment we know that we can eliminate the spherula from the cerebrospinal fluid with silver-arsenic preparations. In view of the inflammatory nature of the disease, non-specific protein, either in the form of milk which was used in this case, or in bacteria, may be used. Calcium seems to work very well in these cases and in the treatment of this case I have incorporated these three principles: silver arsenic as a specific, non-specific protein to increase the body's defense mechanism against the inflammation and calcium as a nerve sedative. At the time when the retrobulbar neuritis was acute, we used cocaine, 4 per cent., followed by adrenalin packs, with the idea of shrinkage. Of course, in any case of a disease that naturally remits, we cannot be too enthusiastic about the results that we get from our therapeutic measures; but the frequency with which these

*A Tri-State Medical Association clinic held at the Johnston-Willis Hospital, Richmond, Va., February, 1931.

cases go into a remission following proper treatment makes a basis for the conclusion that such therapy precipitates these remissions, and as time goes on we shall be able to tell whether it has precipitated a cure or not.

FOR INSTRUCTION IN LANGUAGE OF MEDICINE
(H. J. Mulford, Buffalo, in Med. Jour. & Record, Sept. 2nd)

"A few minutes' talk with any medical man," says Dr. Mulford, "will reveal how ignorant he is of the words he uses." Following are extracts of special interest:

Caruncles are like the purple reddish gems of the same name, *icterus* is the name of the yellow bird. History is found everywhere illustrated in words: *calculate* and *testify* take us back to the days when men told members with pebbles, *calculi*, and cast votes with shells, *testae*.

We all know what *cretinism* is, yet few are aware that *cretin* and *Christian* were originally the same word. The Aryan refugees of the Pyrenees were anciently called *Christaas*, in French, *Chretiens* or Christians. Long residence in the dim valleys with frequent intermarriages of blood relations in time developed a peculiar form of idiocy. People afflicted with this malady are still called Christians under the name cretins, while *cretinism* means etymologically Christianity.

Idiocy also has a historical origin. The ancient Athenians were a nation of politicians. Those who did not hold office were designated *idiots*, private citizens, to distinguish them from the office holders. In time a man who was not a public servant and who had not an opportunity to serve the state as such, was looked upon as a person of very inferior mental capacity, and finally idiocy assumed a meaning among the ancient Greeks quite similar to that of the present day.

The changes in words and in their meanings certainly are very interesting. Thus *curatio*, from *curo*, to care for, has come to mean cure. The ancient word for healing was *medicatio*, from *medeor*, to heal; and a *medicus* was a healer, at first of wounds, and afterward of all diseases. Our word *heal* has a similar history. It is derived from a root *hel*, meaning cover, and from it *heal*, *heel*, and *hell*, all are formed. To *heal* meant originally, to cover a wound with skin; the *heel* is covered by the leg; and *hell* is a covered place somewhere below.

ITALIANS EARLY BELIEVED CONSUMPTION CONTAGIOUS
(From Dr. Oppenheim's Letter to Medical Recorder, 1826)

The University of Rome is named *Della Sapienza* and has 14 medical professorships. This university has no museum whatsoever. They are altogether ecclesiastical institutions, formed according to the notions of churchmen, and destined to serve rather as asylums for the administration of spiritual con-

solation, than for the cure of diseases. Accordingly, the physicians and surgeons are persons but of secondary importance in a Roman hospital, while the priests and confessors enjoy the chief authority! They alone are the resident officers; to them the admission of a new patient is first communicated; and they administer the first remedies, confession and the sacrament. They are nine in number and altogether contain about 2000 beds. In some there are separate wards for consumptive patients, for the opinion that consumption is contagious is universal in Italy. [Italics ours.—S. M. & S.]

SOMETHING NEW—MALE PROSTITUTE CONVICTED
(From Public Health News, Trenton, via JI. Med. Soc. N. J.)

The first man to be convicted as a prostitute and sentenced to penal institution in New Jersey was recently removed to the Rahway Reformatory from Paterson. In the 10 years after the man's first contact with the Paterson clinic, several women who came to the attention of the protective officer named him the father of their illegitimate children and charges of bastardy were preferred against him. By moving about from place to place, and through legal technicalities, he was able to escape punishment, however.

In November, 1930, this man was named the source of a syphilitic infection in a report received by the State Department of Health. When notified of this fact, the health officer of Paterson had an investigation made and appealed to the county prosecutor, calling attention to the man's long career of promiscuity. As a result, the offender was arrested under authority of Chapter 240 of the Laws of 1922, charged with being a prostitute, was convicted and sentenced.

PROHIBITION IN MAINE IN 1855

(From Sat. Rev. of Lit. via JI. Med. Soc. N. J.)

In the London Daily Telegraph of July 5th, 1855, a correspondent describes the effects of the then prohibition law in the State of Maine:

"Every person is his own publican and sinner. The effect of this is the violation of State law and a great deal of immorality in the shape of deceit, lying and hypocrisy. If a stranger asks for a glass of lemonade, he is treated to whiskey and water, and told, with a grin, that the weather is so hot they are obliged to make that beverage strong in order to keep it. You are constantly misunderstood if you ask for any mild beverage such as milk or chocolate—silence is interpreted by rum, a nod by peach brandy, and the act of shaking hands by corn whiskey. A remark concerning the weather is a request for mint julep, and an inquiry after a friend's health means brandy. The merchant gets elevated in his counting house, the parson in his study and everyone else where he can."

OPIUM, externally or internally, may cause a papulovesicular eruption.

A Special Technique in X-Ray Stereoscopy*

DEWITT R. AUSTIN, M.D., Charlotte, N. C.

Austin Clinic

Through experimentation in our x-ray laboratory we have been able to develop a stereoscopic technique used with the Bucky diaphragm which is a very great aid to us in bringing out detail in the study of certain parts of the body.

The ordinary stereoscopic shift, of course, is the distance between the eyes. We use just half this shift at a target film distance of twenty-seven (27) inches with the Bucky diaphragm. By this technique, excellent stereoscopic pictures are obtained of the head, the spine, the hip, the shoulder and the knee joints.

This technique is especially useful in obtaining perfect stereoscopic pictures of the head. For instance, the sella turcica is brought into almost unbelievable prominence and its normal relations are preserved, thus aiding the roentgenologist greatly in making his diagnosis.

In a geometrical way, this half shift corrects the error of the distance from the film to the object being stereoscoped. For instance, in stereoscoping the sella turcica, the target film distance is twenty-seven (27) inches. The sella is approximately five and one-fourth ($5\frac{1}{4}$) inches from the film. Since it cannot be adjacent to the film, as it should be in making a perfect stereoscopy, something should be done to correct this outstanding error of five and one-quarter ($5\frac{1}{4}$) inches, which causes lack of detail in ordinary stereoscopic pictures of the head. We have found that this half shift of the tube corrects this error in a practical way. It has not been figured out geometrically by us, but we know from experience that this technique is practically correct and is a great aid in making stereoscopic films of the head and other parts of the body mentioned above.

—809-810 Independence Building.

*Presented to the Mecklenburg County (N. C.) Medical Society October 6th, 1931.

VALUABLE INFORMATION ON THE COMMON COLD

(A. R. Dochez, K. C. Mills & Y. Kneelund, New York, in *The Lancet*, Sept. 5th)

Observation has confirmed the opinion that anthropoid ape, particularly the chimpanzee, is susceptible to acute upper respiratory infections that resemble in every respect the same type of infection in man. Such infections are readily communicable from man to the ape, and from ape to ape. Study of the bacterial flora of the upper respiratory tract in chimpanzees shows it to resemble that of man to a remarkable degree. These animals, therefore, should prove to be excellent animals for study of respiratory mental transmission of acute upper respiratory infections. Such in fact has proved to be the case.

There is no doubt that the virus of the common cold plays a most important role in promoting respiratory infection in the community as a whole, in addition to its obvious significance in respiratory infection in the individual.

From these studies the conclusion may be drawn that one type of acute upper respiratory infection is caused by a filtrable virus. In addition to initiating the symptoms of infection this agent may be considered to provoke increased activity of any potential pathogens that may happen to be present in the respiratory tract, and, furthermore, to render the respiratory tract susceptible to implantation by pathogenic organisms from the exterior. An inter-

esting observation in connection with this point of view is that in individuals stigmatized with rheumatic disease many times a recrudescence of the rheumatic process is occasioned by an attack of the common cold. From the above observations the inference may be drawn that the virus of the common cold in the individual plays the double role of initiator and promoter of upper respiratory infection.

THE REVOLVING SOLARIUM

(Letter H. S. N. Menko, to the Editor *The Lancet*, Sept. 5th)

There is a revolving solarium at Aix-les-Bains, France, likely the only one in the world. The designer is Dr. Jean Saidman, director of the Institute of Actinotherapy in Paris. Situated on a high hill amongst the mountains of Savoy, the solarium is visible a long way off and looks like an enormous aeroplane.

In the middle of the body or tower is the lift, which brings one to the floor where the sun treatment is given. The rays are measured by a special instrument, and the solarium is easily turned on its axis by an electromotor. In ordinary sunlight treatment the patient lies flat on a couch and receives the rays obliquely; whereas in the solarium he is so placed that the rays fall perpendicularly on his body, and this immensely increases the amount of energy received from the rays.

Testicular Tumor In Infancy

Case Report

RAYMOND THOMPSON, M.D., Charlotte, N. C.
The Crowell Clinic

New growths of the testicle differ from tumors elsewhere in two outstanding characteristics, 1st, in the complex pathology that may present itself and, 2nd, in embryological and anatomical peculiarities that render the operative treatment both easy and uncertain. Tumors of the testicle are relatively rare, occurring about once in 1,500 admissions. A testicle retained in the inguinal canal is more frequently the site of malignancy than either the normally or abdominally placed organ. As a malignant tumor of the male, the testicle is involved about once in 200 cases of malignant disease.

Testicular tumors in infants and children are diagnosed quite rarely. Following his exhaustive review of the literature and pathological study, Ewing came to the conclusion that practically all tumors of the testicle are of teratomatous origin. The term "sarcoma of the testis" is usually a misnomer, as a true sarcoma of this organ is an extremely rare thing. Ziegler describes, under the head of teratoid tumors and cysts, those tumor-like formations which are characterized by the fact that the tissue comprising them either does not occur normally at the site in question, or at least does not appear there normally at the time at which they were found, and classifies them as (1) simple teratoid tumors, (2) simple teratoid cysts, and (3) complex teratomata which contain tissues derived from all the germ layers.

The occurrence of tissue formation in regions in which such tissues are not normally present can be explained in part by the assumption that cells or groups of cells have not undergone normal differentiation, but retain the capacity of forming different kinds of tissue. The preferable explanation is that there has been a germinal aberration or misplacement of tissue, in that in early embryonic life embryonal cells of one organ find lodgement in the anlage of another. Ewing's classification based on his belief that all testicular tumors are treatomous is as follows:

1. Adult embryomata or teratomata—rare cases in which the rudimentary organs of a parasitic fetus may be found.

2. Embryoid, teratoid or mixed tumors—cases in which derivatives of all three germ layers are found, but in such confusion as to eliminate any resemblance to a fetus.

3. Embryonal malignant tumors, a mono-dermal teratomatous derivative (seminoma of Chevasu, spermatocytoma of Schultz and Eisendrath).

Case Report

CASE No. 22112, 5-16-28, J. R. H., age 16½ months—male. *Chief Complaint*—swollen left testicle. *F. H.*—negative. *P. H.*—general health has been good; no serious illness or operation; measles—mild attack at eight months. *P. I.*—swollen left testicle which is painless, duration three months. *Exam.*—Well developed and healthy looking; heart and lungs normal; abdomen negative; external genitalia negative except swollen left testicle which is typical of hydrocele—light is transmitted through mass; both testicles slightly smaller than normal. 5-16-28 *Urine*: Acid, albumin and glucose negative. *Sediment*: No pus, no blood, no casts, no bacteria. *Diagnosis*—Hydrocele left. *Treatment*: operative. 5-18-28: *Operation*: General anesthesia; usual hydrocele operation; definite hydrocele, but left testicle and epididymis normal. Specimen removed for pathological examination.

Pathological report of tissue from epididymis:

The specimens obtained show the usual structure of a benign cystic dermoid as nearly all of the tissue is epithelial and shows many hair follicles, sebaceous and sweat glands. There is, however, cartilage and neuroglial tissue present and it is therefore a teratoid tumor (Wilms designates these tridermal growths as embryoid or teratoid). These tumors, especially the adult type as seen here, may be benign; there is a striking tendency for one germ layer to outgrow the others and become malignant.

On account of findings of May 19, 1928, it was decided that a more radical operation should be done.

5-28-28: *Left testicle and adnexa removed.*

Pathological report of left testicle and adnexa:

This specimen consists of the main mass of the teratoid and shows cystic open spaces filled with blond hairs and sebaceous material, a large amount of connective tissue, blood vessels and one hollow bone. There is also a large cystic island of neuroglia and a mass of tubules lined by epithelial-like cells and encapsulated in dense connective tissue tunic. This latter probably represents the atrophic testicle. No evidence of malignancy found. *Diagnosis*: Teratoid of testis (Lt.) This would then fall under Ewing's classification—group 2.

Case Report

A REPORT OF ELEVEN CASES OF ASCARIS INFESTATION TREATED WITH MACNIN

PAUL F. WHITAKER, M.D., F.A.C.P., Kinston, N. C.

Editor's Note.—Some months back there came to us from the University of Tokio a supply of a new drug, *Macnin*, with request that it be given clinical trial as a vermifuge. Knowing of Dr. Whitaker's acute interest in this subject, he was requested to do this investigative work. The encouraging outcome is herewith reported.

Macnin is a brownish yellow powder, slightly lumpy, lumps easily crushed, of a mild musty odor, and practically no taste. Its taste is certainly not unpleasant. It is insoluble in water and alcohol. Its chemical formula was not submitted.

The dosage recommended is 0.7 to 1.5 gm. for adults, 0.2 to 0.6 gm. for children—to be taken on an empty stomach. It is recommended in the treatment of ascaris (round worm) infestation.

Eleven cases of ascaris infestation were treated with *macnin*. Ten of these cases were of adults and one case of an 8-year-old boy. All of these cases had a stool positive for the ova of round worm. The average dose employed in the adult cases was 1 gm. (15 grains). Depending upon the build and weight of the patient, the dose was varied slightly. For example, a small anemic underweight woman would be given slightly less than 1 gm., while a man above the normal size would be given more than 1 gm. The 8-year-old boy was given 0.5 gm. (7.5 grains). The treatment was as follows: The patient was instructed to abstain from the evening meal on the night before the treatment was given. At bedtime that night he was given a mild laxative such as cascara or milk of magnesia. The next morning he ate no breakfast. A 5-grain capsule of *macnin* was given every hour on arising until the patient had taken three capsules, a total of 15 grains. In the case of the 8-year-old boy the 7.5-grain dose was divided into two powders and given one hour apart. One hour after the last dose of *macnin* in all cases a brisk saline purge was given. Orange juice and water were allowed the night before and during the treatment. Solid food was allowed three hours after the saline purge.

In seven of the 11 cases treated one treatment was sufficient, a negative stool being obtained two weeks after treatment. In three

of the cases two treatments were required, and in one three treatments had to be given.

In none of the cases did the drug have any apparent toxic effect. Two patients were nauseated and vomited during the treatment. This was probably the reason that the treatment had to be repeated in these cases. One patient, a frail woman with severe secondary anemia and severe pyorrhea, complained of intense weakness and prostration after the treatment. These symptoms could be explained by her weakened condition and the severe purgation, however.

In the light of experience with this small number of cases *macnin* compares favorably with other drugs used in the treatment of ascaris infestation. It is efficient as a vermifuge and apparently is not toxic in the dosage recommended. Its apparent non-toxicity and freedom from objectionable odor and taste should make it particularly attractive as a vermifuge for children.

—Sept. 29, 1931.

PATHOLOGY FOUND IN 100 CONSECUTIVE TONSILS ..
(H. L. Reinhart, Columbus, in Ohio State Med. Jour., Oct., 1931)

The study of 100 consecutive pairs of tonsils is insufficient for any specific conclusions and comprises only a preliminary report of a more detailed investigation.

However, this study would seem to warrant the following conclusions: (1) that a relatively normal tonsil may be established with definite contraindications to its removal; such were encountered in 20 cases of the present series; (2) that the maximum incidence of pathology which would seem to have justified tonsillectomy was 44 cases; (3) there remains 36 cases in which the lesions encountered were more suggestive of atrophic or involuting changes than any active pathological process.

These results certainly justify the microscopical examination of every excised tonsil, and recent studies of lymphoid tissue seem to open a new field of investigation with reference to the tonsil which may prove fruitful to both clinician and pathologist.

MURIATE OF GOLD USED IN SYPHILIS IN 1540 (From *Revue Medicale*, 1825)

This remedy is as ancient as the year 1540, according to Dr. Gustavus Benaben, who employs the preparation of Dr. Chretien (muriate of gold and soda) in the form of frictions to the tongue, beginning with the 1/14 part of a grain, gradually increased to 3/8; sometimes used internally in very small doses. The effects on the animal economy are copious sweats or a great flow of urine. The quantity required for the removal of secondary symptoms from 6 to 12 grains.

Notes On Diagnosis and Treatment

A Column Conducted By

THE STAFF OF THE PARK VIEW HOSPITAL
Rocky Mount, N. C.

For this issue, J. A. WINSTEAD, M.D.

AN INFANTILE DIARRHEA WHICH TURNED OUT TO BE PELLAGRA

Recently we have had several infants referred to us because of a diarrhea which had not responded to the usual treatment. A similarity of symptoms was present in all cases:

1. The stools were watery, greenish, contained very little solid matter, had a foul odor not that of a putrefactive diarrhea, and were from six to 24 in the 24 hours. There was no straining, and apparently no pain accompanied the bowel movement. At times blood was seen in the stools and occasionally mucus.

2. Nausea was one of the most troublesome symptoms and it did not appear to depend on intake. Occasionally some of the food was vomited.

3. Anorexia was pronounced for everything except sweets.

4. In all cases undernutrition was marked. One baby of 13 months weighed only 11½ lbs. and did not appear to have rapidly lost weight.

5. The mucous membrane of the lips and mouth of these infants all showed a redness similar to that described in the black-tongue of dogs. This was not the picture we usually find in acidosis. The CO₂ combining power of the blood, in those cases in which it was determined, did not show an acidosis.

6. Fever was present in all cases. At times going as high as 107. One child who made a recovery ran a temperature ranging from 103 to 107 for four days.

I was in the dark as to the nature of these cases until one child was admitted who had, in addition, a symmetrical red rash over the anterior aspect of both legs. The history in this case disclosed that this child had been exposed to sunlight by being taken out to the field with its mother. In none of the other cases was any rash present; nor were we able to get any history of direct exposure to the sun.

Dietetically there was a similarity in that they had been fed on cereals, such as rice

and grits, potatoes of both kinds, some pork, crackers, vanilla wafers, jellies, preserves and molasses. With the exception of one child none of them had had any milk after about the sixth month, and this child had nursed a pellagrous mother until 11 months of age. We saw it at 13 months.

As soon after admission as possible these children were transfused. We gave by the direct method approximately 20 c.c. per pound of body weight. Usually they were transfused within three or four hours.

On account of the difficulty in getting these children to take food by mouth, they were given subcutaneously 5 per cent. glucose in normal saline for about 24 hours. They were then given one tablespoonful of Karo syrup, one teaspoonful of Mead's yeast, one ounce of orange juice in three ounces of water every four hours for 24 hours. After that they were put on a milk formula and given broths and purees of beans and peas. The yeast was continued in teaspoonful doses immediately before each feeding.

We have had a mortality of 50 per cent. in these cases, deaths occurring the fifth to seventh day after admission. Those patients who died we found it extremely difficult to get to take food, and gavage usually produced vomiting.

These few cases, I believe to be the more severe forms, and that there are many milder ones as yet unsuspected of being pellagrous. Pellagra is supposed to occur rarely in the first year, but my observation leads me to believe it is rather frequent, particularly this summer. However, we will not usually get the skin lesions in the first year because so many infants, in this class of patients, do not get the exposure to the sun necessary to bring them out.

WORKED FOR DAYS WITH PNEUMONIA

(W. J. Deadmon, Hamilton, Ont., in Can. Med. Assn. J., Sept.)

A street cleaner, aged about 60, who had been in the city employ for about five years, collapsed on the street and was brought to the hospital in the police ambulance. He died about one hour after admission. At autopsy he was found to have lobar pneumonia involving the whole of the right lung, in the gray hepatization stage. The heart showed considerable myocardial degeneration. The man had been carrying on his work while suffering from lobar pneumonia for several days.

Southern Medicine and Surgery

OFFICIAL ORGAN OF
TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA

MEDICAL SOCIETY OF THE STATE OF
NORTH CAROLINA

JAMES M. NORTINGTON, M.D., *Editor*

Department Editors

HUMAN BEHAVIOR

JAMES K. HALL, M.D. Richmond, Va.

PEDIATRICS

F. H. RICHARDSON, M.D. Black Mountain, N. C.

G. W. KUTSCHER, JR., M.D. Asheville, N. C.

E. K. McLEAN, M.D. Charlotte, N. C.

DENTISTRY

W. M. ROBEX, D.D.S. Charlotte, N. C.

EYE, EAR, NOSE AND THROAT

EYE, EAR AND THROAT HOSPITAL GROUP
Charlotte, N. C.

LABORATORIES

THE BARRET LABORATORIES Charlotte, N. C.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D. Gastonia, N. C.

UROLOGY

HAMILTON W. MCKAY, M.D. Charlotte, N. C.

ROBERT W. MCKAY, M.D. Charlotte, N. C.

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D. Charlotte, N. C.

INTERNAL MEDICINE

PAUL H. RINGER, M.D. Asheville, N. C.

SURGERY

GEO. H. BUNCH, M.D. Columbia, S. C.

THERAPEUTICS

FREDERICK R. TAYLOR, M.D. High Point, N. C.

OBSTETRICS

HENRY J. LANGSTON, M.D. Danville, Va.

GYNECOLOGY

CHAS. R. ROBINS, M.D. Richmond, Va.

NEUROLOGY

OLIN B. CHAMBERLAIN, M.D. Charleston, S. C.

HISTORIC MEDICINE

VARIOUS AUTHORS

PUBLIC HEALTH

GEO. M. COOPER, M.D. Raleigh, N. C.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D. Winston-Salem, N. C.

HOSPITALS

MERCER C. PARROTT, M.D. Kinston, N. C.

RADIOLOGY

DEWITT KLUTTZ, M.D. Washington, N. C.

NURSING

HETTIE REINHARDT, R.N. Winston-Salem, N. C.

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

FOR ANATOMY AND PHYSIOLOGY IN THE PUBLIC SCHOOLS

All along through the centuries may be found, here and there, one wise enough to proclaim that natural history is the foundation of any real education. So Aristotle taught Philip's son; Dr. Wm. H. Taylor urged upon the young men who sat under him that no people can thrive on bookish scholarship to the neglect of the natural sciences; a modern poet reminds that the proper study of mankind is man. But, certainly in this Country, next to nothing has been done to educate children into a knowledge of their own selves or the physical world about them.

It has remained for Dr. A. C. Ivey¹ of Chicago to advocate a definite program, where many have merely spoken vaguely about what should be done.

Accurately Dr. Ivey discerns and plainly he says:

A spirit of ignorance, misunderstanding, envy and fear of science and truth is prevalent today. "The very name of science is being perverted to serve superstition, fakery and fraud"—and successfully. The dawn of scientific understanding in society is still awaited. . . . There exists very generally an emotional hostility to biologic and medical science. . . . Facts, not beliefs, determine truth.

It is made clear that the defect is in our educational system. It would seem that our first concern in education would be to learn about our very selves; but what little of science is taught in our general schools concerns itself with the anatomy and physiology of the frog, not of the human being.

It is noted that there is general dissatisfaction with present-day curricula.

The product of our schools does not think, cannot correlate, cannot adjust, and cannot use effectively what he knows. And, of course, an educated person is supposed not only to know but to understand, to use, to possess disciplined emotions and to manifest controlled behavior and a critical judgment.

It is my contention and thesis that the only method for accomplishing this aim is to introduce the study of biology and human anatomy and physiology into the curriculum of primary and secondary schools on a par with English, history and arithmetic.

People with knowledge of the human body would not patronize cults and would realize that an expert knowledge of the body in health and disease cannot

1. Chairman's Address. Sec. Physiology & Pathology, JI. A. M. A., Aug. 29th.

be acquired in a few weeks or months but only by years of specialized training. A population with a knowledge of the nature and control of the processes of the human body would stand with open arms to receive the advances made relative to the cause, control and cure of disease.

The medical profession should bring their influence to bear on the school boards and on the educators in their communities to the end that an adequate and properly taught course in anatomy and physiology be introduced into the public school curriculum, so that people may have the opportunity and be stimulated to acquire a wholesome respect for the human body and its processes.

Dr. Ivey concludes with:

The chief obstacle is that there is a small minority that religiously fights and fears the truth. But in view of the progress of the past century, I am hopeful and dauntlessly optimistic that the present-day unrest in education is a good omen and that truth will prevail.

We heartily agree with the thesis and its exposition; nor are we a recent convert. As long ago as June, 1928, we editorialized, in much the same vein, under the caption, "On Starting Schooling Right;" and there we said, "an intelligent comprehension of natural history will make impossible the entertainment of superstitions—religious, medical, or Ku Klux." This editorial was reproduced in the *Health Bulletin* of the North Carolina State Board of Health, for Sept., 1928.

In the period of history which we frequently call The Dark Ages emperors and kings commonly required that, each year, one or more public anatomies (dissections) be done in their chief cities. Our populace, generally, lacks that degree of instruction as to how we are made.

It may be that our people will have more occasion and more time to think over the deficiencies in our educational system in 1931 than they had in 1928. Anyhow let us bring all our influence to bear to have human anatomy and physiology taught all the children who go to our public schools.

In the *Journal of Hufeland* it is stated that the first who introduced the inoculation of the small-pox into Europe, was Immanuel Timonis, a Greek physician of Constantinople. He communicated this art, in the year 1713, to the universities of Oxford and Padua, of which he was elected a member.—*Medical Recorder*, 1826.

ON SWAPPING WITCH FOR DEVIL

And makes us rather bear those ills we have
Than fly to others that we know not of?
Hamlet, Act iii, Scene 1.

When Charlemagne was master of Christendom he forbade his subjects the use of alcohol: although he imposed the most terrible punishments for infractions of the law, it was a failure, and that wise old savage repealed the law—and today the descendants of his subjects are abstemious peoples!

When Mohammed was master of Islam he forbade his subjects the use of alcohol: the poppy and the hemp flourishing in his domain, the Easterners were well content to take to opium and hashish—and today it is said that products of these plants hold 200 to 300 millions of Asiatics in thrall!

It is common knowledge that addiction to opium derivatives is a heavy curse in our Country today; but few had any idea that the hemp carried menace to any except those of us who stood in danger of hanging.

A few weeks ago that wide-awake weekly, *Time* (Sept. 7th) carried a statement that the mariahuana, hemp, or muggles habit was becoming prevalent in Harlem and New Orleans, that the world's greatest Negro cornet-player was an addict and that a 10-acre field of the plant had been located in Philadelphia.

When the October issue of the *New Orleans Medical and Surgical Journal* came in it brought amazing and alarming news¹ of the prevalence of the hashish habit in New Orleans and the likelihood of its spread over the whole Country. The author informs us that

Mariahuana, vulgarly called muggles, is *Cannabis sativa*, the flowering tops of the female plant of hemp grown in semi-tropical and temperate America. It was once thought that only *Cannabis Indica* grown in the far East was active, but the American specimen, mariahuana, is equal in potency to the best weed in India.

He startles us with

Whilst the intoxicating and narcotic properties of Indian hemp have been known, and hashish has been in common use from time immemorial in the Orient, it was not until recently that this menace assumed a formidable aspect in our South. The facility with which seeds may be procured and the plant culti-

1. The Mariahuana Menace (a paper read before the Louisiana State Medical Society), by A. E. Fossier, M.D., New Orleans, April, 1931.

vated make its prohibition practically impossible. This weed has already been found in some of the back yards of this city. We can readily surmise the magnitude of this danger when we consider that it is estimated that over 200 million of the world's population constantly indulge in it.

He revives and adds to our knowledge of the action of the drug:

In many respects the action of *Cannabis sativa* or *Indica* is similar to that of alcohol and morphine. Large doses produce excitement, delusions, hallucinations, rapid flow of ideas, a high state of ecstasy, psychomotor activity with a tendency to willful damage and violence, and a temporary amnesia of all that has transpired.

The Superintendent of the Indian Mental Hospital in Ranchi says: "I shall not hesitate to believe any one who commits acts of violence under the influence of the drug and pleads complete amnesia of the crime on recovery." He states that hemp is a direct cerebral poison which causes acute delirious mania, chronic mania and dementia. Kingham says that in the suggestibility resulting from hashish intoxication, the last vestige of man's artificially acquired restraint is swept away.

He calls in Dr. George Roeling, coroner of the Parish of New Orleans, who testifies that the histories of 450 prisoners show 125 confirmed marihuana addicts, from 18 to 31 years of age. It is twice more frequent in the whites than in the negroes. One out of every four persons arrested in this city is addicted to marihuana.

Dr. Fossier goes on to say:

As far as it can be ascertained this addiction has assumed formidable proportions since the advent of that "noble experiment," that fiasco, prohibition. The dominant race and most enlightened countries are alcoholic, whilst the races and nations addicted to hemp and opium, some of which once attained to heights of culture and civilization, have deteriorated both mentally and physically. Under this addiction the most brutal and bestial crimes are perpetrated; nations and races in the grasp of its nefarious influence have degraded to the lowest plane of civilization.

The possible substitution for alcohol of this greater evil should be considered the greatest possible calamity that can befall a nation.

From the Arabic hashshashin (hashish-eater) we have the English word assassin.

Who does not remember how confidently it was promised that forbidding the sale of alcohol for beverage purposes would close the prisons for want of prisoners? In England, with licensed liquor, this has been done on a large scale; but there has never been a time

in our Country when as large a proportion of the whole population was behind prison bars—and there is no rainbow in the sky.

A Missouri proverb says hemp will grow anywhere the ground is rich, and a small patch can be easily made rich. Seeds are said to be readily procurable. Backyards are plentiful. No distillation is necessary to betray by smoke or scent. A few grains only are required for complete influence.

How much is required to bring one to the point that he is willing to kill a man he never heard of till 10 minutes ago for \$25.00?

How much of our rule of the racketeers is explained by drugs taken as substitutes for alcohol?

Who could have anticipated that we would take to hashish, the maker of assassins?

Who would dare make a prediction?

GOVERNMENT HOSPITALIZATION FOR THE FEW VS. PRIVATE MEDICAL CARE AND HOS- PITALIZATION AT HOME FOR THE MANY

The Federal Government has inaugurated the policy of giving hospital care to World War veterans in illnesses having no connection with their war service. This was done over the earnest protest of the American Medical Association.

To carry out this policy would require the erection and staffing of a great number of hospitals over the Country, place the Government in unfair and crushing competition with private doctors and private hospitals, and, at the same time, serve the veterans unacceptably and inefficiently.

The vast majority of veterans much prefer to get their medical care at home and at the hands of their own doctors, and a considerable number can not avail themselves of distant hospital care.

At its meeting at Philadelphia last June the House of Delegates of the A. M. A. passed a resolution urging the payment of weekly cash payments during total disability and payment of necessary hospital charges so the veterans can be treated in hospitals of the veterans' own choice.

It is plain that providing new hospitals in such number as would be required would be an enormously expensive undertaking, for which all of us would have to pay; also that

another short step would take us to providing this care for wives and children.

For all the citizens of the U. S. to be taxed to build new hospitals when certain citizens of the U. S. have already in operation hospitals adequate for rendering efficient and economical care, ready and waiting, is nothing short of reckless waste from one angle, and tyrannous confiscation from another. Be it remembered, these private hospitals were erected to meet real and urgent needs, and those needs will be with us demanding to be met when we World War veterans are as few as now are those of '61 to '65.

In addition—and this is of great importance—under the present plan a veteran receives no benefit in illness unless it be decided that hospitalization is required. The resolution passed by the House of Delegates favors cash benefits for disabling illness in home as well as hospital.

It appears obvious that the substitute plan proposed would be more serviceable, more satisfactory and cheaper as well as juster to veteran, taxpayer, hospital owner and doctor.

Plans are proposed for increasing the number of Government hospital beds still further, although a recent survey indicated that more than 200,000 beds in civilian hospitals are unoccupied and that many private hospitals face ruin for this reason.

All of us know how next to impossible it is to get rid of a Bureau of the Government. Naturally, bureau employees don't wish to lose their jobs. So we can expect every effort to be put forth to extend the scope of bureaucracy unless it is held rigidly within reasonable limits.

Many American Legion posts have gone on record favoring the Insurance Plan. Let's get vigorously to work toward having our own posts do likewise.

Advantages of the Insurance Plan¹ as advocated in Resolution passed by A. M. A. (proposed, we believe, by Dr. H. H. Shoulters of Nashville):

Under the *INSURANCE* plan, the benefit is available to every veteran the moment it is enacted into a law.

Under the *hospital* plan the benefits will not be available to every veteran until sufficient number of hospitals have been built to accommodate the needs of all the veterans.

The *INSURANCE* plan is of equal benefit to every veteran.

The *hospital* benefit is of unequal benefit to veterans because the benefits are available to veterans who live near a hospital and are not available to the veterans who live at a distance.

Under the *INSURANCE* plan the veteran who is disabled draws a cash benefit when disabled from a cause which does not require hospitalization.

The *hospital* plan is of benefit only to the veteran whose condition requires hospitalization.

Under the *INSURANCE* plan the family of the veteran would receive the weekly cash benefit during the hospital confinement of the veteran.

Under the *hospital* plan the family of the veteran receives no government benefit. If the veteran is indigent his family is dependent on community charity.

The *INSURANCE* plan would be economical to administer in that government organizations already in existence could administer the law and the veterans would receive the full benefit of every dollar spent by the government.

Under the *hospital* plan of benefits most of the money would go into construction costs, the cost of equipment, the cost of administration, etc.

Under the *INSURANCE* plan of benefits when the last need of the last veteran has been served, the plan of service will have been completed and there are no buildings and equipment to be abandoned.

Under the *hospital* plan of benefits the hospitals would remain open at enormous cost without patients, or the buildings and equipment would be abandoned and the personnel disbanded.

THE PRIME FUNCTION OF A MEDICAL COLLEGE

On September 2nd the following letter was despatched:

Dr. W. T. Sanger, President,
Medical College of Virginia,
Richmond.

Dear Dr. Sanger:

I have a thought with regard to our Medical College which I believe has great possibilities. The complaint is general, indeed, wellnigh universal, that medical schools teach everything but treatment. Doctors complain of this and patients complain of it.

Over the past twenty-five or thirty years it has been, in many circles, considered smart to say flippant things about the uselessness of treatment. On too many lips were the words Wendell Holmes is said to have uttered about the medicines and the fishes, and the alleged ideal of the Vienna School at one time; that

1. From *Jl. Tenn. State Med. Assn.*, Sept.

every patient should be "ausculted by Skoda and autopsied by Rokitanski."

Patients want doctors to do something for them.

Dr. W. S. Rankin called me last week and told me that he would like to go over with me some figures which he has recently compiled. He came to my office and showed me pretty conclusively that, with the exception of the few diseases for which there have been evolved fairly specific treatments, curative medicine has advanced almost none at all in the past thirty years (Pneumonia is a seeming exception).

The period covered by Dr. Rankin's observations just about corresponds with that during which indifference to treatment has been the mode.

I would much prefer to have a poor diagnosis and get well than the best diagnosis and die or remain ill; and even those who sneer at treatment feel the same way about their own carcasses.

Nearly every doctor knows that, in our hospitals and our outpatient departments, in our post-graduate schools and in our medical societies, treatment is either ignored or glossed over.

I'd like to have the Medical College of Virginia strive for and earn the reputation of being a place where students are taught how to get sick folks well and how to make and keep those comfortable that they can't get well. I'd love to know that every teacher there is thoroughly saturated with the idea that a good doctor can do a whole lot for any human being so long as there is breath in him. I'd love to know that at least as much time is put in on teaching the students the treatment for each case as has been put in in making the diagnosis.

I hope you will think over this and let me have the results.

Sincerely yours,

Jas. M. Northington,

Pres. Gen'l. Alumni Soc., M.C.V.

Dr. Sanger's response was most sympathetic.

On September 21st we read in the *British Medical Journal*. From the pen of Professor R. J. S. McDowall of the University of London an earnest appeal for changes in the medical course to make better healers.

"It may be said that it is educationally

good," says this teacher, "for the student to learn a great deal of what is really unnecessary, but are we entitled to teach much that is unnecessary, while the curriculum is so overcrowded that he has scarcely time to think and while we have to omit a great deal of what would be really useful to general practitioners of medicine? Even if we may teach him some facts that are not essential, is it not best to teach those things which are in most immediate relationship to his later work? If he must learn about iron, is it not better for him to learn about the function of iron as haemoglobin in the body than to learn how the mineral is obtained from natural ores and converted into steel, however interesting it may be? The evidence is very complete that we reach a stage when we can only accumulate new information at the expense of some which we already have.

To consider an Arts professor who knows nothing of the natural sciences, or of the functions of his own body, or very little of human nature and frailty, better educated than a doctor is simply convention and nonsense; for if the limitations of time have made it necessary that the doctor is weak in his classics, his history or his literature, he has gained a vast and varied knowledge of nature which would be of inestimable value to his Arts colleague.

The sciences must be taught to the medical student, because the methods of science are the methods of medical research, and they teach him to think clearly and logically. But they must not and need not be taught *at the expense of his vocation*, and in most instances the principles of a science can be taught, using examples which are of the greatest medical interest and importance. The student must be taught primarily to think and to weigh evidence.

The medical student must be encouraged to develop his sense of values and to weigh evidence, in the hope that he will one day add his quota to the sum of human knowledge and be all the more capable of preventing and alleviating human suffering."

A good many years ago a man of very limited formal education but of fine sense came to us and presented his case after this fashion. He said he didn't come to be told what was wrong with him for he had been told by a number of doctors that he had Bright's dis-

ease. "But," he continued, "they say it can't be cured and leave it at that. What I want to know is whether anything can be done to help me." In two months he had lost 40 lbs., could sleep well, was carrying on his business with zest and said he felt like a new man.

Of course he wasn't cured in the sense of having his kidney tissue restored to normal but *he was cured* in the original sense of being *cared for*, and that was what he had sought and of that help he was tremendously appreciative.

It will be a grand day for Medicine when every doctor feels an abounding confidence that Medicine has the power to render valuable service to every sick human being, whatever the nature or stage of his illness, and when symptomatic treatment is no longer spoken of disparagingly.

WILL THE PSYCHIATRISTS NOT TELL US?

BAKERSVILLE, N. C., Sept. 15 Mrs. Lela Bowman, 35, mother of twin sons three weeks old, wrapped herself in an oil soaked quilt, set it afire and burned to death last night. She had been adjudged insane and was to have been taken to a hospital today.

In an editorial in the issue for June, 1927, of this journal we said:

"This journal has applied to many sources for case reports of patients with mental disease. These reports have not been forthcoming. . . . Frequently we drive by a farm house from which a patient, awaiting transfer to a hospital for mental disease, dashed to hurl himself beneath a passing locomotive. . . . Information as to symptoms which might lead to such an act would most likely have caused measures to have been taken which would have frustrated such an attempt."

In that same writing we quoted Dr. Peter Bassoe of Chicago:

"We wish to call attention to a danger of which workers in modern psychiatry seem unaware . . . which is more conspicuous in American psychiatric literature than in any other. This is the needless use of a cumbersome terminology and style."

We do not know what were the circumstances of the making of arrangements for taking this mother to a hospital for the insane. We believe, though, that, had the husband been told that her mental disease was of the kind that frequently leads to self-destruction, he would not have left her alone for an instant. We believe, further, that, if lecturing and writing psychiatrists will, for the next 10 years, tell family doctors in plain language

about the diagnosis, prognosis—as to suicide, homicide and recovery—and the management of the different forms of mental disease, just as the internists give out such information as to the different forms of heart disease, in that may many lives will be saved, and a far better understanding will be developed between psychiatrists and the rest of the profession, to the great gain of everybody.

A PLAN, MONEY-SAVING AS WELL AS LIFE-SAVING

A movement has been put on foot by the doctors of a certain section of North Carolina which, when adopted, will save the four counties more money than Harding rascality and Hoover prosperity combined have robbed them of.

There is no doubt in our mind that the general level of morals is way lower than it was 30 years ago; but, in some ways we have improved. We have our Cabinet Ministers and Governors in jail, our bucket-shopping Bishops, a young generation for which we tremble, and a government, all the way from cross-roads to Washington, in which the people have no confidence; still, in some ways we have improved. Witness these two facts: 1, the World War brought forth no such atrocity as *Break the News to Mother*, or *Just as the Sun Went Down*, and 2, public sentiment will not allow the poverty-stricken sick to die for lack of attention. Since the public accepts this duty, immediately the problem comes up of how to meet it most effectively and most cheaply.

Some four or five years ago Catawba County undertook to provide sanatorium care for her tuberculous. With declining tax receipts she was unable to maintain this institution, and for some months it has been closed. The idea we believe originated in the fertile brain of Dr. L. A. Crowell of Lincolnton of having the counties of Lincoln, Burke and Caldwell go in with Catawba and reopen and maintain this institution as a Four-County Sanatorium for the care of the Tuberculous and for diffusion of information as to how to prevent the development of new cases of tuberculosis. These four counties have a total population and total wealth comparable to those of Forsyth, Guilford or Mecklenburg, counties which maintain individual sanatoria.

The Catawba Valley Medical Society has undertaken to bring this plan to fruition. Dr. E. W. Phifer of Morganton is chairman of the committee appointed for this purpose. Dr. L. A. Crowell, jr., writes on this subject in this issue.

Feelings of humanity have been developed to the point where we will no longer allow men, women and children to die without attention in hovel or ditch. Tuberculosis causes by far the greatest number of days of disablement of any disease, and is very communicable. The people of these counties have their choice of two methods. They can continue feeding, housing and otherwise caring for their tuberculous in their homes, where they are and will continue to be constantly starting new cases to be likewise cared for at the expense of those better off; or they can provide a place which will remove bacilli-spitters from children that they would almost certainly infect, restore a large number to health and usefulness and spread information as to how to keep from contracting the disease.

It's a humanitarian plan. It's a life-saving plan. It's a disease-preventing plan. It's a money-saving plan.

GOITER CLASSIFICATION AND NOMENCLATURE

The American Association for the Study of Goiter gives its approval of the following classification and nomenclature:

Clinical Classification:

Type 1—Non-toxic Diffuse Goiter.

Type 2—Toxic Diffuse Goiter.

Type 3—Non-toxic Nodular Goiter.

Type 4—Toxic Nodular Goiter.

Nomenclature:

The association advocates a policy of using the simplest and yet the most descriptive terminology possible.

The use of proper names, while it is impossible to dispense with many well established ones, should be discouraged; as should coined words invented to popularize a fad or fancy.

Emphasis should be made upon the importance of not confounding varieties and sequelae with types. The use of such terms as exophthalmic, hemorrhagic, cystic, adolescent, colloid, intra-thoracic, substernal and congenital are perfectly proper when used to describe varieties, but only constant characteristics should be used to designate types.

NURSING BY THE HOUR

For some months we have been noticing in medical journals published in other parts of the Country advertisements that the services of nurses were available by the hour in certain cities. The advertisements run something like this: "PUBLIC HEALTH NURSING ASSN.—*Hourly Nursing*: Pay Service, assistance with deliveries. *Industrial Insurance Holders*: Service on a visit basis. *Free Service*: Provided by Community Fund;" or, "DISTRICT NURSING ASSN.—*Hourly Nursing at Moderate Rates*."

Wondering whether or not it is feasible to put such a plan into operation in this section and whether good might be accomplished thereby, we conferred with some few of our nurses. In another section of this issue may be found a communication from the President of the North Carolina State Nurses Association.

We trust that nurses and doctors will feel free to express themselves and that, if there is a need for it and it is workable with us, such a service will soon be put into operation all over our territory.

IT MAY BE ADVISABLE TO ACCEPT CERTAIN ELEVATIONS OF BLOOD PRESSURE, as clinically normal and operatively satisfactory, when collateral evidence supports this opinion. Influence of high blood pressure *per se* has little if any effect upon unexpected mortality in surgery. The same is true of compensated valvular disease.—FAUGHT, in *Anesthesia & Analgesia*, Oct.

A CASE OF CONGENITAL DIAHRAGMATIC HERNIA operated on at 7 weeks of age by Dr. O. S. Wyatt, is reported by Dr. E. F. Robb in *The Journal Lancet*, Minneapolis, October 1st. The baby is now 11 months old, weighs 24 lbs., and is in perfect health.

VACCINATIONS performed during the first year of life are less liable to be followed by post-vaccination encephalitis than are primary vaccinations performed later.—Armstrong, in *Annals of Int. Med.*, Sept.

The presence of a few isolated hyaline casts in the urine is devoid of any diagnostic significance, for they are not uncommonly found in the urine of apparently healthy people.—*Hypertension & Nephritis*, FISHBERG, 1931.

In 88 per cent of patients with marked arteriosclerosis of the large vessels, studied by Sawada, there was no elevation of blood pressure.

DEPARTMENTS

HUMAN BEHAVIOR

For this issue, WINGATE JOHNSON, M.D.
Winston-Salem, N. C.

"WHAT ABOUT THE LAWYERS?"

The most soul-satisfying magazine article I have seen in many a day is "What About the Lawyers?", by Dr. Alice Hamilton, in the October *Harper's Magazine*. The writer begins by commenting on the number of articles that have been published castigating the medical profession, while the legal professions goes untouched. Then she proceeds to remedy this oversight in handsome fashion. Dr. Hamilton knows too much about the law to speak from heresy evidence, but speaks only of her own experience. For years an authority on industrial poisons, she is quite familiar with the courts; and the opinion she has formed of them is by no means flattering. "I firmly believe", says she, "that the worst that can be said about medical practice is too good to be said about legal practice".

Her first experience with the law's ineffectiveness was when she found that a druggist could not be punished for selling cocaine to school boys because of a flaw in the law governing the case. "The legal profession is responsible only for following the rules of the game; and a queer game it surely is. The rules did not allow a judge to examine the law after we had framed it and tell us it would not hold water. x x x Some case must be brought under it before such a decision can be made. As if the doctors should say, "We cannot tell you if your new water supply is free from typhoid infection. Put in your reservoir and your pipes, and then if people fall ill we will tell you if it is typhoid, and if it is, you can put in another water supply".

Her remarks on the law's delays will be appreciated by any doctor—and who has not?—that has gone to great inconvenience to be in court at a given time, only to find the case postponed because of the absence of some witness whose time is not worth 10 cents an hour. "Imagine a surgeon letting his patient be all prepared for an operation, the family assembled to wait the outcome, and then decide to put it off for a week because the anesthetist had not arrived and nobody could find the artery forceps".

The laws of evidence, says she, confuse the

non-legal mind more than anything about the law. They require "that the simplest story be interrupted, chopped into bits, and messed up till both witness and jury are confused". The only explanation vouchsafed by the lawyers is that these rules follow precedents established in the beginning of legal practice; which is as logical as if a physician should say, "Yes, I know it is all wrong to bleed a consumptive patient who has fever, but you see that practice dates back to the time when we thought all fevers belonged to the so-called sanguinous type of disease and must be treated by depletion".

"In Illinois, I am told, we live under a legal system which dates back to the time of Charles the Second, but the Legislature in Springfield defeated all the proposals for reform in legal procedure this year".

"Courts never seem to be after the real truth of the matter, nor what is fair and sensible, but only bent on playing a game between two lawyers with the judge as umpire to see that the rules are observed, rules which were made centuries ago by men no wiser than themselves. x x x Yet, interestingly enough, it is the legal profession that claims the greatest homage from us. x x x It is judges alone against whom *lese majesté* is a crime. One may revile the President of the United States with impunity, one may utter blasphemies against the Most High without even attracting attention, but if one is bold enough to protest against an abusive tirade by an ill-bred or drunken judge one may have to expiate it in prison".

"And so I submit", concludes Dr. Hamilton, "that medicine, no matter how imperfect, is a silvery pot when compared with the black kettle—law. Moreover, it has the supreme virtue of knowing it is imperfect and of grasping—almost too quickly sometimes—what is newer and better. x x x No doctor could possibly rise high in his profession if he shut his mind to all new ideas. But with the lawyers it is not so. Amazing as it seems, I have been assured by lawyers that it is quite possible for a man to attain to the highest legal position in the land without ever having changed his mental attitude on any important point since he graduated from the law school. And if that is not an indictment of a profession, I should like to know what is".

UROLOGY

HAMILTON W. MCKAY, M.D., *Editor*
Charlotte, N. C.

THE PROBLEM OF MAKING CYSTOSCOPY PAINLESS

For the past six months in our daily office practice we have found increasing apprehension and fear among our patients presenting themselves for cystoscopy and similar urological procedures. The real fear they show in approaching this examination and their honest and persistent complaints of the great discomfort attending the procedure has caused us to give more study and thought to procuring a satisfactory analgesia or anesthesia.

In a study of this subject we have been extremely interested in the review of an article appearing in the *Journal of Urology*, May, 1923, by Dr. Alexander Randall, now President of the American Urological Assn., under the title, "The Use and Abuse of Local Urethral Anesthetics." After a comprehensive review of the subject Dr. Randall ends his article by saying, "In closing it is a pleasure to record the report of several specialists and teachers to the effect that they do not consider any anesthetic necessary in urethral instrumentation." He again states in closing the discussion of this article that "in possibly four out of five cases, I do not consider it necessary to use any anesthesia." This might have been true and even good practice in a teaching clinic as far back as 1923. We do not believe that instrumentation of the urinary tract can be carried out without pain and we are convinced that doing cystoscopy and like procedures without anesthesia is not good practice. Certainly one would have an almost impossible task to convince his private patients, especially those who are doctors and medical attendants, that an anesthetic for cystoscopy is unnecessary. We have listened to the statement made by urologists for years that an anesthetic was not indicated in the majority of urological cases where instrumentation is necessary; but we have also noticed that when the physician, and especially a specialist, is at the receiving end he is not only willing but insists that it is necessary for all pain to be prevented. We are staunch advocates of the justification of anesthesia in most cases that require cystoscopy and are

convinced that it is necessary in a great many others. We further believe that many patients will not have necessary urological examinations and especially cystoscopies because they are kept away by fears of being tortured, as has been dramatically brought to their attention by others who have been hurt during cystoscopy because either no anesthetic was used, or it was used in an inefficient manner.

URETHRAL ANESTHESIA

To produce local anesthesia within the urethra the following drugs have been employed: cocaine, novocaine, procaine, alypin, and nupercaine. Referring again to Dr. Randall's article written in 1923, eight deaths were reported from cocaine instilled or injected into the urethra. One death was charged to alypin. Thirty-eight cases were cited in which dangerous toxic effects were produced by the various drugs used. No autopsy findings were recorded in this article as proof of the cause of death. We have always been enthusiastic advocates of liberal amounts of some local anesthetic, and we have been especially partial to the use of cocaine in the urethra. We feel impelled to relate our experience with this drug. Cocaine is unquestionably a dangerous drug and one which many patients show an idiosyncrasy for, but when administered judiciously it is probably the most satisfactory drug to produce urethral anesthesia. We do not doubt that cocaine is responsible for some deaths in urological patients; but we also believe that many deaths have been attributed to the use of cocaine that were due to other causes. To illustrate: A few years ago while doing a cystoscopy in a large clinic following the urethral injection of 2-per cent solution of cocaine, the patient was seized with a violent convulsion and, in spite of all efforts to save him, died on the table. Of course, the logical presumption was that the patient's death was due to the use of the drug. Autopsy revealed a massive hemorrhage in the mid brain and many old hemorrhages. A careful history showed that the patient had had former similar attacks. Many other similar cases have been recorded where deaths have been attributed to the use of cocaine and autopsy showed death to have been caused otherwise. I

have used the 2-per cent solution of cocaine in the urethra for years and our firm of McKay and McKay have used this drug up until about four months ago when we abandoned its use on account of the excessive cost and in order to try the new local anesthetic, nupercaine. We might say here that we have been so fortunate as never to have had a death, or even a reaction so severe as to give us much concern, and no injected drug has given us as uniformly satisfactory anesthesia. It has always seemed unfair to us to condemn the use of cocaine as a local anesthetic because of its acknowledged dangers. We now use, and will probably continue to use, other dangerous drugs, such as morphine, apomorphine, chloroform, ether and others. We did not abandon their use on account of the known dangers; but we do condemn the injudicious use of any or all of them. Cocaine should never be used in over-dosage or in the face of trauma. It is, in our opinion, dangerous to force cocaine into the urethra through a tight stricture or to use it where there is a history of idiosyncrasy. Other drugs which are fairly satisfactory for local urethral anesthesia are novocaine and nupercaine. The use of the Bransford Lewis tablet depositor is a simple and ingenious method of confining the action of the anesthetic drug to a limited area and at the same time applying it in a concentrated form.

CAUDAL ANESTHESIA

While local urethral anesthesia permits a satisfactory cystoscopy in many cases, perfect analgesia is seldom produced; therefore, when confronted with a difficult examination or operative procedure to be done with the cystoscope, we should use a different form of anesthesia. When it becomes necessary to dilate the urethra or to do a ureteral meatotomy for the removal of stone, we should have complete anesthesia of the operative field. If we are not careful to carry out the surgical procedures named above with as little pain as possible, the patient will often refuse further treatment, and he will instill such fear into his relatives, friends and acquaintances that they too often refuse the initial cystoscopy. Caudal anesthesia is most satisfactory for cystoscopy and is objectionable only in that it is time-consuming and, relatively, is an extensive surgical procedure

in itself, if the transsacral method is combined with the caudal.

SPINAL ANESTHESIA

Spinal anesthesia, like the local use of cocaine instilled into the urethra, is not without danger; but under judicious use in carefully selected cases it has a place. We are fully aware that we are subject to severe criticism for advocating low spinal anesthesia produced by the use of a small dose of neocaine to be used in selected cases which present themselves for cystoscopy; but we sincerely believe in the near future this form of anesthesia will be used more and more by the urologists who do most of their diagnostic work in hospitals and teaching institutions. It may serve a useful purpose in this article if we illustrate by briefly reporting the cases of a few patients we have had in the hospital in the last 60 days, two of whom are in the hospital at this writing.

Cases

Mr. W. S. S., 48, farmer.

A diagnosis of right ureteral stone, lower third, was made by his family physician before the patient came to our offices. The diagnosis was confirmed. Caudal anesthesia was given, ureteral meatotomy done and stone extracted with corkscrew stone dislodger all at one sitting. The patient remained in the hospital for three or four days and returned home in good condition.

Mrs. A. D. P., 40, graduate nurse.

Diagnosis—two small stones, lower third, right ureter. The patient was extremely nervous, apprehensive and dreaded cystoscopy or instrumentation. Cystoscopy was done under local urethra anesthesia with poor results and extreme discomfort to the patient. Two days later low spinal anesthesia was given and a No. 11 F. bougie passed without discomfort to the patient, both stones were recovered. The patient went home in good condition.

W. L. C., 39, mill executive (doctor's brother).

Diagnosis—contracted bladder with small papillary tumors around each ureteral opening. Cystoscopy done under local urethral anesthesia with very unsatisfactory results, only one ureter being catheterized. The patient's doctor brother specifically requested that some anesthetic be used so as not to cause the patient such great discomfort. A few days later low spinal anesthesia was given, biopsy done and diagnosis made of papillary carcinoma involving the bladder wall and one ureter.

Wm. E., 58, physician.

Diagnosis—Prostatic hypertrophy (median lobe). The patient had been sick for six weeks, part of

this time had been spent in another hospital. The patient was so hypersensitive that he would not allow his medical advisers there to do anything for him. The doctor complained bitterly at the passage of a soft rubber catheter when a local anesthetic was used in the urethra. The next day after admission to the hospital low spinal anesthesia was used. A complete urological study, including cystoscopy and double pyelograms, was done without pain. The diagnosis was made and the doctor seemed very much gratified.

CONCLUSION

1. The toxicity of any drug injected into the urethra and bladder as a local anesthetic depends on the amount of the drug absorbed and the rapidity with which it is absorbed, patients who have idiosyncracies excepted.

2. Cocaine produces the most satisfactory anesthesia when instilled into the urethra; but it must be used with judgment and care.

3. The Bransford Lewis tablet depositor permits the placing of a local anesthetic on a small area and in concentrated form.

4. Caudal anesthesia should be used more frequently and in difficult cases. If the drug is placed properly it will produce satisfactory anesthesia.

5. Low spinal anesthesia is not without a place in the urological diagnostic armamentarium and will probably be used more in selected cases in the future.

EYE, EAR AND THROAT

PERMANENT LOSS OF VISION FROM THE USE OF OPTOCHIN IN PNEUMONIA

FRANK C. SMITH, M.D., *Editor*, Charlotte, N. C.

Impairment of vision from the use of optochin in pneumonia is of interest due to its growing use in this condition. At the present time this drug has not been used sufficiently long to determine how frequently visual loss occurs; but, from the dire results in the cases reported, this possibility should ever be in the mind of the physician prescribing it. Severe poisoning leads to permanent blindness and even mild poisoning results in permanent disability. Since there is no treatment for the ocular condition hope of escaping its results lies in preventing the toxic effects of the drug. It should be stopped immediately upon the slightest visual disturbance or other symptom of poisoning.

Alvis reports a case of destruction of useful vision from the administration of 58 grains during the course of three days. On the third night the temperature went to 104 and the patient was somewhat irrational. The following day she was totally blind. Later she improved until she could see large objects. A similar case was seen by Dr. H. L. Sloan and myself. When the first symptom of visual disturbance appeared the condition was not recognized and consequently the drug was not immediately stopped. Complete blindness ensued with only slight improvement as the months passed. The final result is destruction in so far as practical usage is concerned.

The pathological changes in the retinae are most striking. The vessels, both arteries and veins, are reduced to mere threads. In the case seen by us there were, in addition, discrete punctate changes throughout both retinae.

PRACTICAL ASPECTS OF THE EUSTACHIAN TUBE

V. K. HART, M.D., *Editor*, Charlotte, N. C.

This safety mechanism, to equalize atmospheric pressure within and without the drum membrane, is most apt to be an avenue for infectious material in early life. It is then proportionately larger and more near the horizontal. As growth occurs, it gradually assumes a more acute angle.

Consequently, infant feeding done in the prone position has an element of risk. Milk may be easily forced into the tube and middle ear setting up an acute otitis media. The sitting or semi-reclining position is better.

This is well illustrated by the frequency of middle-ear infections in babies with acute gastrointestinal conditions, when the baby is vomiting gastric contents into the nasopharynx and is usually being fed in the prone position. Sometimes we miss the forest because our attention is fixed by one tree. Such is my reaction to infant middle-ear and mastoid inflammation as a cause of diarrheas rather than the result.

Two other factors contribute to the frequency of otitis media in infancy. First, there is usually residual embryonic mesodermal tissue in the middle ear which makes a splendid culture medium. Later this becomes in part squamous,—over inner drum, ossicles and promontory—and in part ciliated columnar,

epithelium—as that of the eustachian tube. Secondly, the lymphoid or adenoid tissue of the nasopharynx is usually large, and when infected swells, overlaps the tubal orifice, and sets up and maintains an ascending infection. Any infant's ear that continues to discharge after six or eight weeks of intelligent care should have at least an adenoidectomy, which can be done quickly with little risk. To remove the tonsils at the same time requires only a slightly longer anesthesia and should be seriously considered if the age is a year or older. Conservatism is advisable in infants—under one year. By such prompt treatment, many a chronic ear inflammation would have been avoided and hearing conserved.

In later life the eustachian tube is the object of much attack for deafness. Most glibly are drums pronounced retracted (curious how many people with apparently retracted drums have normal hearing) and tubes obstructed or strictured. It must be remembered that the junction between the cartilaginous and bony portions of the canal is angulated and offers natural resistance to a bougie. Therefore, irremediable damage may be done by blind and indiscriminate probing. Only the gentlest should be done.

And the sins committed in the name of inflation! Many a case of deafness, if accurately worked out by functional testing, will prove to be an inner ear lesion or an otosclerosis. No amount of inflation will help these cases. It does little or no good in the late stage of a true catarrhal deafness with late secondary inner ear involvement. Stricture of the tube has been shown to be far less frequent than formerly thought from autopsy findings.

Suppose there is an early catarrhal involvement of the middle ear with a stuffy, blocked tube. A few catheter treatments at weekly intervals, with shrinking of the mucosa with 2 per cent. cocaine, followed by some such oil as choretone blown in from an atomizer, will accomplish the most good. Occasionally 1 per cent silver nitrate is gently applied on a bougie. But treatment carried out for weeks at a time without interruption is wrong. It frequently does more harm than good, and works an unnecessary permanent hardship on the patient. Give a period of rest from one to three months, then repeat a few treatments if necessary.

However—and this is a point frequently

overlooked—any chronically swollen tube is secondary to one of five things, or a combination thereof: 1. large, diseased tonsils; 2. a mass of adenoid tissue in the nasopharynx (This is not uncommon in an adult); 3. a nose blocked by deformities; 4. sinus infections with a post-nasal discharge; 5. tumor of the nasopharynx. Every nasopharynx should be routinely inspected both with the nasopharyngoscope and a mirror, using a palate retractor if necessary. We have had two carcinomas of the nasopharynx recently, both proved by biopsy, and both apparently originating in the fossa of Rosenmueller on one side. One was in a boy 27 years old.

All these conditions are remediable, with the exception of the carcinoma. This will often respond temporarily to deep x-ray. With irradiation of the others, the tubal condition will subside of itself.

Never should the nose be blown violently, particularly during an acute rhinitis. Infection is forced under pressure into the middle ear. Many an acute middle-ear infection has been started in just this way. Gentleness should be used at all times, with one side of the nose open. For similar reasons nasal irrigations are dangerous. Obviously an acute nasopharyngitis forbids inflation of the ear.

Lastly: during the war, the artilleryman usually kept a stick between his teeth as well as a piece of cotton in the ear canal. This helped equalize the pressure inside the middle ear *via* tube and outside *via* the ear canal.

NURSING

HETTIE REINHARDT, R.N., Editor

Winston-Salem, N. C.

President North Carolina State Nurses' Association

HOURLY NURSING

Hourly nursing, as a branch of the profession, has never been developed to any extent in North Carolina. Several factors have contributed to the lack of interest in this type of work: our State has numerous small and medium sized towns, but no larger cities wherein a nurse could better build up such a practice; the attention of the doctors has never been strongly directed toward that phase of nursing care for their patients who do not need the constant attention of a trained nurse, and nurses have been slow to venture into an untried field. It would seem that there is a future for nurses undertaking this type of work. The National Committee on the Dis-

tribution of Nursing Service has been untiring in its efforts to place this work on a sound basis. In some few cities it is being successfully carried on. Its purpose is to serve the public economically and efficiently and to fill a need that is not adequately met at present. It would also furnish employment to nurses, thereby helping to solve the very serious problem of unemployment.

Many patients at home or in hotels need different kinds of nursing care that require only a portion of the nurse's time. In such groups would come convalescents, maternity cases, hypodermic injections of insulin, iron, etc., colonic irrigations and surgical dressings. The nurse would have a very varied and interesting field, the contacts with different patients would never allow of monotony and the efficient nurse would rapidly increase her practice after once gaining the confidence of doctors and patients alike.

It is to be hoped that the doctors throughout the country will give this their serious consideration and lend their efforts to the establishing of such services. This would result in the lifting of responsibility and anxiety on their part for the kind of care their out-patients were receiving, would provide more efficient and economical care for the patient and would give employment to many nurses.

ORTHOPEDIC SURGERY

*For this issue, W. M. ROBERTS, M.D.
Charlotte and Gastonia, N. C.*

MANAGEMENT OF FRACTURES OF THE HIP

Probably no fracture is looked upon by profession and laity with more pessimism than fracture of the hip. This attitude has its background in the fact that the majority of these fractures occur in elderly patients who have suffered the ravages of the various diseases to which man is subject. Add to these the extra burden of severe trauma and a major surgical procedure and it is easy to account for a relatively high mortality rate. The generally accepted idea, however, that once such a fracture is incurred the only prognosis we may offer any patient is non-union, or death from hypostatic pneumonia, need no longer be accepted as true. On the contrary, it may be said that the average patient, under 70, who incurs a fracture of the hip, may expect union and a good functional

result. This statement must of course be qualified. Due to the smallness of the femoral neck fragments, and apposition of the same being highly necessary if union is to be obtained, it necessarily follows that considerable technical ability and experience are necessary factors in the result.

The accepted method of closed treatment of fracture of the hip is the Whitman abduction method. Briefly, this consists of the reduction of the fracture by a maneuver of traction, extreme abduction and extension and moderate internal rotation. A high single spica is used to hold the fragments in this position. By the maintenance of this position the small cervical fragments are accurately opposed, the strong capsule of the hip joint acting as an efficient internal splint.

The advantages of the abduction spica treatment are manifold: 1st, the fragments are accurately reduced and firmly opposed. This is a most essential factor inasmuch as the area of control is of necessity small and the normal circulation of the area very poor; 2nd, prevention of the occurrence of hypostatic pneumonia is possible by being able to constantly change the patient's position, from back to abdomen and vice versa or to a semi-sitting posture; 3rd, these patients get immediate mental comfort because they soon learn that they can be moved in their cast without pain; 4th, the abduction spica is an efficient nursing aid. Probably no fracture entails good nursing care more than this one. The ability of the nurse to turn her patient unassisted allows the proper care of the skin of the back and prevention of decubiti so prevalent in the elderly.

In a recent communication to *Annals of Surgery* Royal Whitman stated, relative to this method of treatment, "Now that a method is at command which is adequate to assure the primary essentials of success, it has been demonstrated that union of the intracapsular fracture, once considered a remote possibility, may be attained in the majority of cases, the only debatable question being of percentage of cases in which there is actual incapacity for repair."

Reggio, from a recent study of these cases at the Massachusetts General Hospital, reports bony union in over 60 per cent. in the cases treated by the Whitman method. It is interesting also that fully 60 per cent. of

these cases were over 70 years of age.

One essential factor in the management of fractures of the hip is, of course, early institution of treatment. It has recently been the sad experience of the author to see a patient in her early 60's with non-union, six weeks after the occurrence of the fracture. In her case no effort at efficient management had been instituted. Under proper management she had every right to expect bony union and a useful hip. She was in a good age group, her general condition was good and yet no adequate treatment had been attempted. X-ray examination of the hip shows that this would have been an ideal case of the abduction treatment. Surely no man need feel too bad if he obtains non-union, provided he has instituted proper treatment, for in some cases it is inevitable. But, now that we have an accepted, time-tested treatment, the failure to institute such treatment puts the blame on the physician in charge.

RELIEF OF SCIATIC PAIN

(F. G. Lindemuller, Ann Arbor, Mich., in *Jl. Nerv. & Ment. Dis.*, Sept.)

Forty-six patients with sciatic pain received sacral epidural injections of 1 per cent. procaine hydrochloride in Ringer's solution. The pain was relieved in 40 of the 46 cases. Foci of infection when present were removed as a probable cause of the sciatic pain. In four cases in which the achilles jerk was absent, the reflex returned after treatment. Vertebral arthritis, trauma and foci of infection probably are the most common known causes of sciatic pain; however, there is a group in which the etiology is unknown.

SURGERY

GEO. H. BUNCH, M.D., *Editor*, Columbia, S. C.

FAT EMBOLI

What we know about fat embolism is so contradictory that opinion of its frequency and importance as a complication following injury or surgical operation is but little more than conjecture. Its clinical manifestations are not often sufficiently distinctive to warrant the diagnosis being made and even at necropsy the condition is unrecognized unless especially looked for.

We know that trauma of fatty tissue is apt to be followed by the entrance of liquid fat into the veins causing emboli in the small arterioles and capillaries when the oil droplets

fail to pass. The lungs are primarily involved, other organs being affected only by the droplets that have already passed through the lungs.

Fat emboli after fractures of bone must occur often. Vance (*Archives of Surgery*, Sept., 1931) reports finding fat emboli in the lungs in five out of 10 cases dying after fracture of the femur, in 16 out of 19 cases after fracture of the pelvis and in 16 out of 24 cases after fracture of the skull. Landis attributes the greater incidence of the complication after fractures in adults to the fact that there is more olein in the fat of adult bone marrow than in that of children. Olein is liquid at body temperature and most emboli are probably of oleic origin.

In the obese, radical surgery of the breast, the repair of large hernias and the trauma made by the baby's head in prolonged labor are probably followed by fat embolism more often than we realize. It has also been found in phosphorus poisoning, in burns and in convulsive seizures such as delirium tremens and eclampsia.

Fat emboli in the lung are obstructive and cause impaired lung function. Oxygenation of the blood is deficient and the carbon dioxide content is increased. The right heart distends when unable to force the blood through the lungs. Less blood comes to the left heart and the blood pressure falls as in surgical shock. The onset of pulmonary fat embolism may be by dyspnea, cyanosis and edema coming a few hours after injury, or the symptoms may appear after several days. Cough is persistent; the sputum is blood-tinged and may contain fat droplets. In fatal cases death comes in coma.

Oil droplets that have passed through the lung enter the systemic circulation and may cause emboli in any of the parenchymatous organs. When the kidney is involved fat droplets may be found in the urine. When lodgement takes place in the brain the symptoms may be those of hemorrhage. The differentiation may be made if fat emboli are found in the retinal vessels. The skin of the upper chest and anterior neck may show numbers of red spots the size of a pin's head from petechial hemorrhage.

The diagnosis can seldom be made with assurance.

The treatment is essentially prevention. Fractures should be reduced early and kept at rest. Orthopedic work should be done with minimum manipulation. Operative wounds in fatty tissue where there is much trauma should be well drained. Nature has provided adequate defense against fat emboli. In most cases the patient gets well without the condition having been suspected. Mortality is high in patients with myocarditis.

However, we must not think that trauma is the only cause of fat embolism. Lehman and Moore (*Archives of Surgery*, March, 1927) suggest that the fat may come in some way from the ultra-microscopic emulsion of fat contained in normal blood plasma. They think the symptoms are out of proportion to the amount of fat which directly enters the blood after trauma. According to them the symptoms ascribed to fat embolism may be due to other disturbance of physiologic balance. In experiments on dogs they have found that in order to produce death it is necessary to inject into the circulation more fat than is contained in the entire femur of the dog.

ANY PATIENT MAY HAVE TUBERCULOSIS "Also"

(Editorial Wisconsin Med. J., Sept.)

Patients enter general hospitals constantly because of other disease conditions who *also* have active or latent tuberculosis unknown either to themselves or to their physicians. Unless a careful chest examination is made, with tuberculin tests, x-rays and repeated sputum analyses, these tuberculous patients may remain missed throughout their hospital stay. Not practicing the ordinary hygienic precautions of informed and intelligent tuberculosis patients, they are apt to be most dangerous as spreaders of this disease.

HOSPITALS

For this issue, HAROLD GLASCOCK, M.D.
Raleigh, N. C.

SPEAK UP FOR HOSPITALS

There are few other institutions in the State that mean as much to the people as the hospitals, yet the public is apparently unconscious of their value. It will be remembered that, during the influenza epidemic, the churches, schools and court houses closed, but the hospitals remained open and redoubled their efforts. Life and limb are always our greatest values, and it is during these periods

of epidemics and depression that the hospitals should receive extraordinary support, for during such times their work is increased and their funds always decreased.

The hospitals are life-saving stations, and they can not exist and perform without funds. It is very important at this time that every staff member and every referring physician should more than ever impress upon his patients and friends the importance of maintaining these institutions at a very high standard of efficiency. All doctors should encourage their patients to pay their accounts promptly, and their friends to lay aside funds to be used in case of illness in the future, for it will be very difficult during the coming year to obtain charity or deferred payment.

As members of the medical profession, hospitals should receive our first consideration, for they are our work-shops, and the people will hold us responsible for their administration. It is our duty to inform the public of the serious situation confronting us, and ask for these institutions a friendly attitude, an active coöperation and liberal financial assistance. We should think as much of our life-saving stations as we do of our fire departments, and who would be willing for one moment to cripple their equipment, or tolerate their inefficiency? In serious illness or in accident, the hospital is one's last hope for life, and with our hospitals depleted as they are today, struggling with the results of a long-drawn-out depression, the situation presented is far from encouraging, especially if we speculate upon the consequences, if through the winter season an epidemic like that of 1918 should be added to their struggle.

Little boy running madly along the street.

Kindly old lady stops him: "My dear little boy, where are you going so fast?"

Little boy: "For a doctor; grandpa's sick!"

Old lady: "Run right back to grandpa and tell him he only thinks he's sick."

Two days later K. O. L. sees L. B. in street again.

K. O. L.: "My dear little boy, is your grandpa all right now?"

L. B.: "Yes, he's all right now. He thinks he's dead, and we are going to bury him Sunday!"—

London Evening Standard.

Thiocresol in 1 in 10,000 alcoholic solution is valuable locally to stimulate wound healing in indolent ulcers.

PEDIATRICS

FRANK HOWARD RICHARDSON, M.D., *Editor*
Black Mountain, N. C.

AN IMPORTANT PART OF THE PEDIATRICIAN'S JOB

It has been charged against the pediatrician that he has made infant feeding such a difficult, involved affair that folks of ordinary means could not afford to avail themselves of his services in any but the most serious cases; and then only until the emergency was over. We are coming now to realize that it is the duty of the pediatrician, and of his right-hand-man, the trained nurse who specializes in the care of infants and children, so to simplify the details that go with the care of their charges, that it will be not only good health but good economics for every mother to avail herself of their services. The mother who leaves the office of the children's doctor, or the baby health station without having learned something of value toward the simplification of her task is a serious challenge directed against the efficiency of these agencies for the improvement of the health of the child population. Both doctor and nurse must educate as well as prescribe, must inculcate principles of self help as well as preach blind obedience. This article is written with just this belief firmly fixed in the mind of the writer. The opposite conception, that after three years of specialized study and training in observation, the trained nurse shall be nothing but an unobserving machine or tool in the hands of the physician, without whose express command she must do nothing, teach nothing, say nothing, think nothing, is too absurd to take time to refute. Unless a nurse is willing to accept the responsibilities that go with her position, by applying the principles taught them by their physicians, and fit herself to teach her clients to think for themselves, she cannot consider this inspiring and wonderful development of the field of trained nursing for herself.

How then shall the nurse simplify the task of the mother? First, by inculcating the simple principles of prenatal care she can make it highly probable that the mother will come out from her confinement and delivery rested rather than wrecked by the trying but yet perfectly physiological experiences she has passed through. If further the nurse has become thoroughly grounded in the principles underlying the establishment and maintenance

of successful maternal lactation, and has sufficiently impressed upon the newly-made mother the possibility as well as the desirability of her feeding her baby upon this, the only thoroughly satisfactory infant food that there is, she will have eliminated from the horizon of her client the whole bugbear of artificial feeding. Publications that will help the nurse to give this instruction to mothers are the following: *Nutrition of Mother and Child*, by C. Ulysses Moore (Lippincott 1922); *Simplifying Motherhood*, by the author (Putnams 1925); *Manual for Nurses in Breast Feeding Demonstrations*, New York State Department of Health, Albany, New York.

The details of artificial feeding, if this is undertaken, need not be gone into here. It is encouraging to see, however, how here too doctors are increasingly turning toward the simple dilutions of whole milk, and getting away from the cumbersome, involved and impressive, but by no means more scientific, formulas of the olden days. Another increasing tendency, specially sponsored by those who advocate the use of lactic acid milk and by those who have been particularly interested in promoting breast feeding, is the almost complete elimination of the old-fashioned colic that takes place once it is learned that the healthy baby never overeats.

The bath can and should be simplified. An elaborate layout for the morning toilet, with cotton-tipped toothpicks galore, boric acid bottle, gauze or cotton pledgets, and an overheated bathroom, is quite unnecessary when a quick immersion into the tub of warm water immediately follows a swift removal of the comparatively few clothes that the properly clad baby wears. Once or twice a week a quick shampoo may be indulged in, rather than the daily oil-banishing scalp-scrubbing that we used to be taught was necessary. The preliminary soaping that subjected the delicate skin to the harsh action of the soap is likewise done away with; and is replaced by the washing of the whole body with the soaped washcloth in the tub, which follows the cleansing of his face with the unsoaped cloth, also while he lies at ease in the bath, with the water up to his neck. It is dangerous and unnecessary to explore external auditory canals and anterior nares with cotton-tipped toothpicks dipped in boric acid solution; the dictum "nothing smaller than the elbow is to be inserted into nose or ears" being sound

pediatrics. We are today much more afraid of the production of abrasions in the mucous membrane of mouth and gums, than we are fearful of the inability of the natural secretion of the mouth to take care of any cleansing that is necessary. Washing the eyes out with boric acid solution is unnecessary and may be harmful.

The baby's clothing is far less elaborate than used to be thought necessary. The abdominal binder or band is now dispensed with, except for so long a time as it may be necessary to serve as a bandage retainer for the umbilical stump dressing. The sleeveless shirts still sold as bands are of course nothing more nor less than shirts; and these are best dispensed with. Neither they nor the old flannel belly bands are now used except as a reminder of the more elaborate older custom; and if they are not useful, they are certainly undesirable. The shirt, once silk and wool, is now of cotton. A full-grown man frequently finds that his skin will not stand the irritation of wool next to it, so it is hardly wise to expect that the skin of the infant will be more resistant. Where once prickly heat was considered a thing that must be put up with, it is nowadays looked upon as a reflection upon the judgment of the adult in charge, who has subjected the infant to clothing conditions that she would not tolerate for one moment upon her own person. A dress and a three-cornered diaper complete the attire of the baby in summer; whereas in winter it is customary to add the flannel petticoat, with or without the sleeveless cotton waist to hold it in place. Any additional thickness that may be needed is procured by adding sweaters or sacs, which may be removed as easily as they were added, or, for naps, by employing extra blankets or spreads.

To the bed to be used for the baby the nurse or the mother should give considerable thought. It is customary to use an old-fashioned clothes hamper made of woven oak splits, with a hard hair pillow for a mattress. For the permanent bed, when this becomes too small for further use, a moveable bed on wheels, of the kiddie-koop type, with four wheels and screen or slat sides narrow enough to permit of its being moved through the standard-size doorway. Whatever is used as a bed, a firm mattress is most desirable, with rubber sheeting or stork cloth laid upon it, a quilted bed pad over that, and the lower

sheet laid over that. Blankets and the upper sheet had best be pinned in place with large blanket pins; unless, as is even better, a roomy sleeping bag is used, for the purpose of keeping the bedclothes safely and permanently in place. For night sleeping, a nightgown of stockinette or similar absorbent material is put on. Ample diapering must be provided for the absorption of all urine,—the custom of bottling this all up in immediate contact with the skin, by means of "stork pants," being a relic of barbarism.

The same thing is of course true of the use of these monstrosities in the daytime. The old-fashioned three-cornered diaper provides abundant thickness in the additional folds where they are most needed. If still more thickness is needed, it is available by the use of an extra diaper folded to resemble a vulval pad, and placed inside the first. The fact that the normal baby has a certain amount of physiological bowing of the legs, which has been attributed by some hasty folk to the thickness of the diaper between the legs, is of course not a result of the use of this diaper at all.

It does not make very much difference how one lays a baby down, for he is quite certain to assume the position that he prefers. At certain ages, this will be the prone position; at others, it changes to the supine. It is sometimes possible to choose which side he shall lie upon, during the stages of his development at which the lateral posture is assumed; but with certain babies, this is quite impossible, as they will turn and twist until they get into the position that they like best. A pillow had best be dispensed with.

What about exercise? There was a time when it was customary for doctors to say that unless a child did a certain amount of crying, he was missing his proper daily dozen! While we hardly believe in this rather consoling theory today, we do know that there is an enormous amount of healthful exercise involved in the various muscular movements in which a baby indulges during any 24 hours of his existence; and that any definite stated scheme of formal exercise is quite unnecessary at this age period.

One other way in which the care of the baby can be immensely simplified is by the use of the three protective inoculations which can be definitely, positively, safely recommended for all babies before the end of the

first year—those against smallpox, typhoid and diphtheria. It ought to be quite unnecessary in this late day to mention these three, yet we know that many a child goes unprotected against all three of these for years, when he might at little cost, less discomfort and no risk be made safe from them. The nurse who is doing her full duty and the doctor who is mindful of his will do their best to protect whatever children they can in this way.

Isn't this making it so simple and easy that every one can be his own doctor and trained nurse? Unfortunately, there is no hope, much less no fear, of such a consummation so devoutly to be desired. There will always come up many points which will require the individual attention of doctor and trained nurse. Simplify as we will, there are always enough things to be done by the mother during the 24 hours that make up her crowded, eventful day's work, that the mother's task can never be made an easy one. But the doctor or the trained nurse who can so aid in the execution of the duties of a mother's day that she may carry them out without being constantly overtired, will be simplifying the care of the child in still another way. He will be doing his best to insure that child, and every child who profits by his effort, the quiet, calm, sustaining mental atmosphere that can never exist in the home where the mother is never rested; and hence to insure for all such children a background best adapted for the maintenance of the mental health during the critical first six years of life, when the main character trends are becoming set in the moulds that they are to retain for life.

SMALLPOX VACCINATION

(Joseph Smith, Providence, in R. I. Med. J., Sept.)

Vaccine virus should be kept on ice, or better, if one has an automatic refrigerator, in the icemaking compartment. Carry it in an outside pocket and not in your inside vest pocket. The physician wonders why he did not get a take. He forgot that he kept the capillary tube in his hand about 10 minutes while telling a story. How long did the clerk warm the tube before him? As soon as you buy your virus, get it on ice, and keep it there until you are ready to vaccinate. Remember that besides being useless to vaccinate someone with an impotent virus, such practice tends to discredit the practice of medicine.

The multiple pressure method of Kinyoun, as modified by Leake, is by far the best method of vac-

cination. The site on the arm is washed with soap and water and cleansed with acetone. This removes the film of fat. The acetone evaporates quickly. A drop of the vaccine virus is placed on the skin of the arm at the insertion of the deltoid and the flat of a round needle is pressed through the drop into the skin rapidly about 20 times. The needle is held tangential and parallel to the skin, and the vaccinating area is kept as small as possible, 1 to 1.5 sq. mm. Usually no blood is drawn. It must be remembered that the needle is held parallel and not obliquely to the skin. The excess lymph is then wiped off, and the subject is told to return later for observation. *Shields are positively prohibited.* Remember the after-care, alcohol washing.

Since infants two months of age are not so apt to scratch or injure the vaccination, all babies should be vaccinated at about that age. It is best to revaccinate at five years of age.

INTERNAL MEDICINE

PAUL H. RINGER, M.D., *Editor*, Asheville, N. C.

HOUSE INFECTION IN PULMONARY TUBERCULOSIS

There is no doubt that in the past the danger of house infection has been greatly exaggerated. We must differentiate between house infection and contact infection in the house, the former being concerned simply with the harboring of bacilli within a building while the latter has in it the human equation.

In considering house infection the class of house must also be borne in mind. Some 30 years ago the New York Anti-Tuberculosis Society investigated a region near Allen street, just next to the Manhattan end of the Brooklyn Bridge, where it had been noticed that many cases of tuberculosis originated. So notorious had this region become that it had acquired the name of Lung Block. In these wretched tenements, inhabited by the poorest of the poor, rooms were found in which some member of three or four successive occupant families had died of tuberculosis. It must be remembered, however, that these houses structurally were the worst in the city. The rooms were small and ill-ventilated, many opening only on courts or shafts. They were overcrowded, three and four people often sleeping in one bed; and the inhabitants, suffering from under-feeding, were under-clothed in winter and were a prey to all manner of disease because of their most unhygienic way of living.

When dealing with what has been called the submerged tenth, house infection certainly can play a most important part. When dealing, however, with the middle and upper classes, it plays a very small part, if any. As soon as there is at one's disposal sunlight, good ventilation and cleanliness, the tubercle bacillus retreats precipitately. Little by little we are getting away from the fetish of fumigation, which is in its essence a relic of barbarism. The formaldehyde candle, which emits a wretched odor and causes flies to tumble from the ceiling in a fit of unconsciousness, makes quite a hit with the laity; but is by no means the equal of fresh air, soap and water and painstaking scrubbing for ridding the room of infectious agents.

A word should be said about contacts in the house, although as intimated at the beginning of this editorial, that does not primarily come under the heading of house infection. Young children inhabiting the same house with an open case of tuberculosis are very subject to infection, irrespective of how careful the patient is, unless the house be of such construction as to permit the patient to have his own suite of rooms with his own bath, and furthermore the children can be kept away entirely. This combination of circumstances can obtain, of course, in but a very small percentage of homes. Irrespective of how careful the patient is with the disposal of sputum and the covering of the mouth when coughing, there must be some contamination in his vicinity; and young children can with difficulty be restrained from climbing on the bed and from touching articles of clothing which the patient has used. The common bathroom, in spite of all possible precautions, presents necessarily many opportunities for contact infection. Of course, one contact does not determine the onset, nor do two or three, nor 10 or 20 for that matter; but prolonged contact is one of the best ways of finally overcoming resistance.

We may summarize then by saying that house infection of tuberculosis, save in the pauper class, is infrequent and relatively unimportant; and that contact infection in the house in practically all classes, is frequent, important and almost impossible to guard against.

SANOCRYSYN IN PULMONARY TUBERCULOSIS

(J. B. Amberson, Jr., B. T. McMahon & Max Pinner in *Amer. Rev. of Tuberculosis*, Oct., 1931)

This investigation proves the need and the merit of a carefully prearranged plan to be followed in a clinical test of a chemotherapeutic agent in tuberculous patients.

We discovered no evidence in 12 cases, studied according to such a plan, that sanocrysin, given in small, gradually increasing doses up to a total of 6.1 gm., has a beneficial effect on pulmonary tuberculosis or its complications.

Compared with control cases, more of our sanocrysin-treated cases became worse. The evidence is strongly suggestive that sanocrysin was at least partly responsible for the unfavorable trend of the disease in some of these cases.

Sanocrysin exerted definitely harmful systemic effects in all our treated cases, partly as a secondary result of its action on the local tuberculous lesions, but mostly, we believe, by virtue of its inherent toxicity. These effects were usually on the nutrition, gastro-intestinal function, temperature, skin, mucous membranes and kidneys.

One sanocrysin-treated patient died from parenchymatous degeneration of the liver and other effects which we interpret as gold poisoning. We could not anticipate this unfortunate outcome.

Because of the lack of definite evidence of benefit and because of positive evidence of harm which in some respects is long-lasting, especially in the kidneys, the use of sanocrysin, as we used it, is not justified.

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

THE RED LIGHTS IN PRENATAL CARE DURING THE LAST FIVE WEEKS OF PREGNANCY

In this country we are still in our infancy with reference to prenatal care. Many of us family doctors are a little slow to take seriously certain signs and symptoms that appear during the last five weeks of pregnancy. Our slowness to recognize these symptoms results in many of these cases terminating in death of both baby and mother, because when the mother has eclamptic symptoms and seizures the baby has the same pathological conditions more or less. In our judgment the profession generally is not using all the knowledge and experience it has of the seriousness of prenatal care. Too, the public is more or less indifferent to the seriousness of the situation in the lives of these women, taking the attitude that nature will take care of the situation, and all is well.

Our experience in the last few years has convinced us pretty thoroughly to the point of view that the greatest danger in the life of a child-bearing woman is the experience which she goes through from the time she conceives until the end of the lying-in period. The waste of life and money during this period is not known, and we should be able to get our records together better so as to estimate properly the cost in money, life and invalidism. We talk about conservation in other fields of endeavor, but we are talking little and doing less in this field of human relations; which, to our way of thinking, is the most important. What could be of as much importance as to have our mothers come to the hour of labor in perfect condition and so be given the best opportunity of giving birth to normal babies, who would start their lives with best chances of discharging their full parts in the world?

From our point of view, the significant red lights that stare us in the face in the last five weeks of pregnancy, to which we cannot pay too much attention, are these:

1. Rather rapid increase in weight.
2. A general puffing of the body.
3. A gradual elevation of blood pressure, which may go from 120 to 170 within a period of from 10 to 14 days.
4. The urine at first may not show anything, but at the last show a slight or a heavy trace of albumin with occasional hyaline and granular casts, and sometimes a few pus cells.
5. Complaint of a peculiar headache and peculiar sensations which she has never had before.
6. Complaint of restlessness at night and an uneasy feeling during the day.
7. Complaint of eye symptoms, haziness, inability to see as well as formerly, more or less dizziness.

Examination of the retinae will show little white deposits and minute hemorrhages. The family doctor, if he will provide himself with an ophthalmoscope, can train himself so that he can see these things in the eye and then if there is any question about the interpretation of them it will be well to have an eye specialist look into the eyes and tell him just what he may expect.

When these red lights appear, it is well to

act, because if you do not act positively, it is a matter of probably a few hours or a few days before the patient is going into convulsions, and once she goes into convulsions there is no mortal who is able to tell what the outcome will be. We do not ordinarily advocate induction of labor, but in these cases induction of labor with pack, catheter or bag is a wise procedure, and if this is done and done properly under strictly clean conditions, we will be able to save practically all of these mothers and their babies; whereas, if we leave it to nature we run great risk of losing them.

PROPER CARE IMMEDIATELY POSTPARTUM (A. M. Mendenhall, Indianapolis, in *Medical Arts, Ind.*)

As a rule too much speed and manipulation is resorted to in getting the placenta delivered. Nature has prepared for a period of uterine rest and this rest should not be too early interrupted. Postpartum hemorrhage incidence is in proportion to the traumatism and promptness of manual methods used in expressing the placenta. In nearly all cases 20 or 30 minutes of careful watchful waiting is far better than any early mechanical efforts at placental delivery.

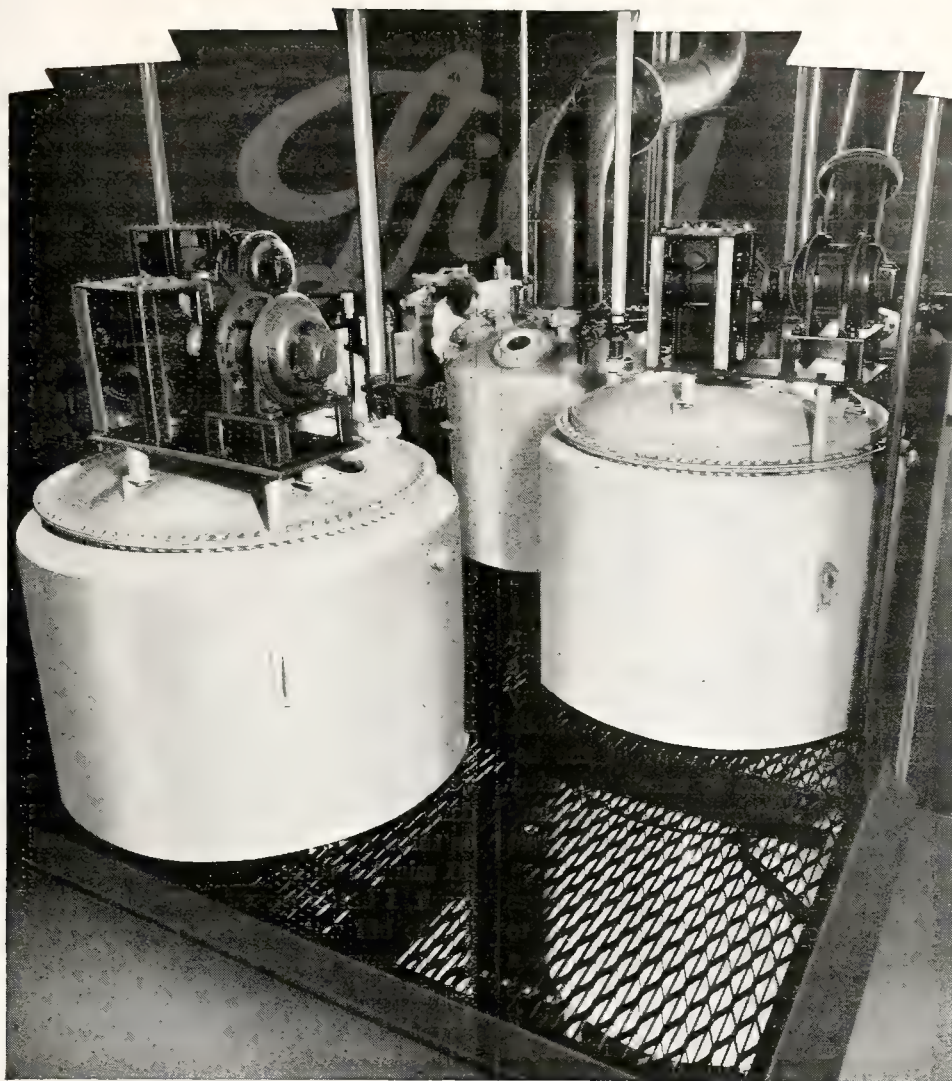
All lacerations should be promptly and carefully repaired. Tissues must be picked up, coapted and reapplied to points from which they have been separated, else the repair is scarcely worth while.

One must always be on the alert for postpartum hemorrhage. Fortunately, true uterine atony is quite rare but is so sudden and so dangerous that its possibilities must never be overlooked. If the diagnosis is made and if pituitrin and ergot are administered very promptly and if the fundus uteri is kneaded and held firmly, few lives should be lost.

Subinvolution is to be treated with ergot, quinine and strychnine and possibly in late subinvolution hot saline douches may be added. Prolonged bleeding, intermittent bleeding, subinvolution, foul discharge, etc., are all suggestive of retained secundines.

Retroversion and prolapse are best prevented by not keeping the patient on her back. By the 4th or 5th day she should be encouraged to lie on the face and by the 8th day (average case) she should assume the knee-chest posture three times a day for 10 to 15 minutes. She should remain in bed for 12 to 16 days and should not be on her feet more than one-half to one hour at a time for the first week out of bed. She should have a final examination at the end of six weeks in order to ascertain the condition of the perineal floor the condition of the cervix and the position of the uterus. Faulty position of the uterus may often be corrected with the proper pessary if used at this early period after delivery.

It is desirable to examine the obstetric patient six months after labor if the best possible postpartum care is to be given.



THE production of Liver Extract No. 343, used in the treatment of pernicious anemia, involves elaborate equipment. The two storage tanks of the extract in process, in the foreground above, are seen from the second floor level, as is the still in the center.—View in the laboratories of Eli Lilly and Company, Indianapolis, manufacturers of

**ILETIN (INSULIN, LILLY) -- LIVER EXTRACT No. 343
TABLETS AMYTAL -- PULVULES SODIUM AMYTAL
PARA-THOR-MONE -- EPHEDRINE PREPARATIONS**

and an extensive line of pharmaceutical and biological products

**LILLY PRODUCTS ARE ADVERTISED ONLY IN PUBLICATIONS
ADDRESSED TO THE PROFESSION**

Please Mention THIS JOURNAL When Writing to Advertisers

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D., *Editor*
Winston-Salem, N. C.

ANESTHESIA AS OBSERVED BY THE DOCTOR STANDING BY

If the surgeons who are so enthusiastic about local and spinal anesthesia could see the faces of their patients during the operations, it would be interesting to know how many of them would keep their enthusiasm. This thought came into my mind while watching two recent operations on patients under spinal anesthesia. Both patients were nauseated during the process of injecting the fluid into the spinal canal. In both the features were drawn with pain when the incision was made, and the first patient—who had a nephropexy—had to be given ether to finish the operation. The second patient—the operation was appendectomy—went through without a general anesthetic, though badly nauseated at first, and complaining of pain during the first half of the operation. The surgeon was too intent on his work to pay any attention to her drawn features. Her systolic blood-pressure dropped from 90 at the beginning of the operation to barely 40, after which she rather lost interest in her surroundings, and seemed dazed throughout the rest of the time.

This sort of anesthetic may have advantages over ether in selected cases, but it is hard to see how an agent capable of causing such a rapid drop in pressure can be as safe as ether; and it is hard to sit and watch a patient's features through an operation in which it is used, and be enthusiastic about it, but after every case I have seen it used—nearly all similar to the ones cited above—the surgeon has been loud in its praises.

Practically the same remarks may be made, omitting the rapid drop in blood-pressure, about major operations under local anesthesia.

THE WORKMEN'S COMPENSATION ACT

For the first time since it has been in force I have come into violent contact with the Workmen's Compensation Act, and must admit coming off second best. When the act was first put into effect, I was asked by one or two insurance agents if I would care to represent their companies in caring for the accidents that might occur in industrial plants insured by them. Not caring to be subject

to call for any and every accident, I declined, with the reservation that I would be willing to see the members of any of my families; but I was informed that I must accept "whole hog or none"; that the company preferred to have one doctor whom they might call at any time, and would not allow the patient any choice in the matter. Having lost my taste for bandaging mashed fingers and toes, and filling out interminable reports thereafter, I let these companies employ younger men.

This summer the oldest son in one of my most loyal families, a family I have served for 15 years and feel as if I belonged to, while working during his vacation in an industrial plant, suffered a horrible burn of both legs. The doctor regularly employed by the company was called to attend him and rendered first aid, but knowing my relation to the family, very courteously asked me to treat the case. Inasmuch as I was not recognized by the company as being able to dress a burn, he further offered to sign the report of the case, make out the bill for the work of us both, and give me my part. Since I had been instrumental in getting his appointment, I did not hesitate to accept his offer. The burns were quite deep in some places, and required daily dressing for a month. For the first two or three weeks each dressing consumed from 30 minutes to an hour, but at the end the result, I flatter myself, was quite good.

The bill was rendered for exactly what I would have charged the father had he been responsible for it. Although requiring far more time, each dressing was charged for only on the basis of a regular house visit. In due time after it was sent to the proper authority came a check for just half the amount with a note stating that the commission had looked it over and had decided that this was a fair and just compensation for our work. Inasmuch as the bill was not sent in my name, I could not protest personally. My colleague, who had had previous experience with the powers that be, advised that we accept what they gave us; that in one case he knew of, a doctor had been threatened with contempt of court for questioning the decision of the commission.

Now, what is wrong with this picture? It may be argued that I was served right for using a subterfuge to keep my patient. The father would probably have been willing to pay me himself in order to have his family

The drought and pellagra

If history repeats itself, poverty and privation, due to the drought, will leave pellagra in their wake this spring—as after the Mississippi flood. Authorities agree that a preparation of yeast rich in vitamine-G (B_2) serves as the best preventive of, and treatment for pellagra. To relieve pellagra during the flood of 1927, Dr. Joseph Goldberger, the U. S. Public Health Service and the American Red Cross employed large quantities of Brewers' Yeast-Harris and Yeast Vitamine-Harris in the Southern States.

Their favorable reports thoroughly justified the use of these products. Brewers' Yeast-Harris and Yeast Vitamine-Harris differ from other preparations of yeast in that biological assay of the output proves them to be uniformly very rich in the pellagra-preventive principle, vitamine-G (B_2), and also in vitamine- B_1 .

As a dietary adjunct, Yeast Bouillon Cubes Harris also furnish a dependable source of vitamine-B complex, containing both factors F and G in the form of a delicious broth.

To treat pellagra, prescribe 2 level teaspoonfuls of Brewers' Yeast-Harris two to six times daily.

YEAST VITAMINE-HARRIS

A Concentrate of
BREWERS' YEAST-HARRIS

Samples on request

THE HARRIS LABORATORIES



TUCKAHOE, NEW YORK

doctor retained; but it does not seem right to penalize him for his loyalty. In treating the patient I was absolutely conscientious in the number of visits. The experiment of leaving some of the dressings to the family might have been tried, but there would have been greater risk of infection and of contractures.

I am not assuming the role of a reformer; but I would like to know just why the workings of the act could not and should not be so amended as to allow the patient and his family some choice in the matter of a physician. This point has been fought for and won by the New York County Medical Society. Next, I would like to know by what power of divination our compensation commission is able to tell just how much work any given case requires—especially one so indefinite as a burn.

SULPHOCYANATES DANGEROUS IN THERAPEUTIC DOSES
(J. C. Healey, Boston, in *New Eng. Jl. of Med.*, Sept. 17th)

The sulphocyanates in doses large enough to reduce blood pressure appreciably are toxic and may destroy life. The syndrome of hypoadrenia has been produced clinically and experimentally with what have been described as therapeutic doses of sulphocyanate. The drug is cumulative under certain conditions. Other symptoms of intoxication, such as gastro-intestinal weakness, rash, dermatitis, psychosis, may in fact be manifestations of hypoadrenia of greater or less degree. The incidence of intoxication increases with the age of the patient.

"BE SURE'S" IN HEART DISEASE

(J. B. Herrick, Chicago, in *Jl. Med. Assn. Georgia*, Sept.)

Be sure the disease is one of the heart before you treat it as such.

Be sure the heart disease is grave enough to warrant such treatment before prescribing rest, digitalis, or other radical procedure.

Be sure if the disease is serious or threatens to become so, that the treatment is thorough, not too long deferred, not too soon discontinued. Let the treatment fit the disease, not the anatomic disease, rather the physiologic.

Be sure to consider the patient as well as the disease in your treatment and in the manner of discussion of his ailment.

Be sure to individualize in advising, and in prescribing drugs or other remedial measures.

In two cases of dropsy—one ascites, the other anasarca—unusually large doses of digitalis were administered successfully by John Davy, M.D. The medicine was increased first to 45, afterwards to 70 grains per day!—*London Med. & Phys. Jl.*, 1826.

PUBLIC HEALTH

GEO. M. COOPER, M.D., *Editor*, Raleigh, N. C.

TYPHOID FEVER

This year 34 deaths were reported to the State Board of Health from typhoid fever during the month of August; in August last year there were only 23 such deaths reported. In 1930 deaths from typhoid reached the lowest number ever before recorded in the State. We are not undertaking here to present the total of deaths reported for this year as compared with last year, but as the months of August, September and October are the principal months in which typhoid deaths occur it is a rather unsatisfactory situation to consider.

Typhoid fever is a disease which, so far, it has been impossible to eradicate. A wonderful improvement has been made in recent years. This is due largely to the great improvement in public water supplies and in the public milk supply; but public water and sewer systems serve only about a third of the people of the State; that is, population living in the larger towns and the cities alone are served with adequate public water supplies and sewage disposal facilities. A large proportion of the population must still depend on the intelligence and care exercised in the average rural home.

The menace of carriers is present all the time, and no one can be sure at any time that he is not in some way coming in contact with a carrier. As all of us know, the chief danger from carriers is when they obtain work as cooks or waiters in eating establishments or private homes, or as employees in dairies. If every family employing a cook would insist on a physical examination of each prospective employee, the examination to include a careful laboratory examination of feces; and if every hotel, restaurant, or dairy would rigorously enforce the same requirements, the carrier menace could be reduced to an almost invisible minimum.

It is probable, however, that most of the typhoid in this State is spread through ignorance and carelessness. Health officers, practicing physicians and nurses have accomplished a great deal during the last 25 years in educating the general public as to the dangers of typhoid, and especially how to prevent secondary cases from occurring when a patient comes down with the disease. At the same

-HYMADOL-

A RECONSTRUCTIVE TONIC

Pleasant to the taste and acceptable to the stomach. Composed of the following necessary elements in nerve, bone and tissue building:

Viz: Strychnine, Cod Liver Oil Extract, Phosphorus, Lime, Soda, Potash, Manganese and Iron.

Increases Weight

Burwell & Dunn Company

Manufacturing Pharmacists

CHARLOTTE, N. C.

ELIXIR DIGESTENZYME

contains the active enzymes and acids of digestion—*Pepsin, Veg. Ptyalin, Pancreatine, Lactic and Hydrochloric acids*—combined in similar proportions as they exist in the human system. These digestive agents comprise the principal known substances employed by nature in the preparation of food for assimilation.

It is a valuable aid in Dyspepsia, and diseases arising from imperfect digestion. Also particularly valuable in many forms of Diarrhoea, and Vomiting in Pregnancy.

time there is much more necessary to be done before typhoid fever ceases to be a menace to the general population of the State.

That all the ignorance concerning these things is not confined within the borders of North Carolina, the item below, reported by the Westchester County health authorities in New York State, indicates that educational work is still necessary practically everywhere. Westchester is a wealthy county of 300,000 to 400,000 population, just outside of New York City.

Every practicing physician can easily appreciate the fact that every time a case of typhoid fever is diagnosed in a family specific and detailed instructions are at once necessary to safeguard the rest of the family. Vaccination for the whole population is undoubtedly a sound principle and should be encouraged in the practice of every physician as the only definite practical safety measure which may be generally applied.

The Westchester account follows:

"In one of the larger villages of the county a 13-year-old child had been ill for 10 days to two weeks when a physician was called. He found the child suffering with typhoid fever and suggested removal to a hospital. The parents refused to consider hospitalization; the child could be 'better cared for at home.' The doctor ordered an enema before leaving, and subsequently asked the visiting nurse association to look after the case. The nurse arrived just after the mother had finished giving the enema and in time to see her dispose of the result in the kitchen sink, which was then rinsed out with cold water. The nurse admonished the mother against such procedure on general principles, but when she further learned that the mother habitually plugged the outlet of the sink in order to wash the dishes with cold water, her protests were even more vigorous. It was decided forthwith that hospitalization of the patient was imperative, if secondary cases were to be presented in that family. Moreover, before the nurse left the house, the kitchen sink received as thorough a disinfection as possible."

AN ATROPINE TEST IN ASTHMA

(Marjorie Gillespie, London, in *Brit. Med. J.*, Aug. 29th)

A full dose of atropine might be injected subcutaneously at the onset of an attack. In those cases where contraction of the bronchial muscle is due to direct chemical stimulation of the muscle, atropine would be expected to have no effect, whereas in the truly nervous type the attack would be aborted. In this way the patients whose attacks are due to psychical stimuli alone could be differentiated from those who owe their symptoms to a fundamental chemical alteration of the blood.

RADIOLOGY

DEWITT KLUTZ, M.D., *Editor*, Washington, N. C.

DUODENITIS

The digestive function of the duodenum is of more importance than that of any other part of the alimentary tract. Deficiency in gastric digestive secretions and actions can be compensated for by substances that flow into the six inches beyond the pylorus. Duodenal feeding affords proper handling of food, and individuals with part or all of their stomach removed have lived fairly comfortably. Yet, with the exception of peptic ulcer, irritation from food and chemical poisoning, duodenocholecystitis of generalized infections and a vague idea of faulty digestion, the general idea of affections of this part is rather vague. Duodenal functions and actions are greatly influenced by those of the stomach, pancreas and biliary system, and its walls are affected by many abnormal processes that involve these. Its nervous, vascular and muscular apparatuses react to neighboring or distant reflex stimuli, and in recent years the duodenum has been shown to be a frequent lodging-place for bacteria from foci of infection.

Unaided by laboratory examinations, the subjective and objective symptoms frequently fail to direct us to the seat of the disease. It is not unusual that the duodenum, biliary system, pancreas and the stomach are all involved in a functional or an organic process, and sometimes the primary condition cannot be differentiated. At times there is doubt after all possible study and an operative search is necessary. In our laboratory the study of the duodenal contents for biliary disease and pancreatic disfunction has rarely furnished information of value to the patient, but stool examinations are often of aid.

Radiographic study of the alimentary tube is usually of great aid in conditions involving the duodenum, but even this method may fail in furnishing the diagnosis in cases of duodenitis without ulceration. It is nothing new to state that both negative and positive diagnoses of ulcers are sometimes erroneous. In late years, since duodenitis has been shown to exist occasionally as a distinct entity, it is more often looked for; but a positive diagnosis is difficult to make from a fluoroscopic and radiographic examination by the barium meal. The picture usually observed is that of an

irritable duodenum with varying grades of spasticity in this region without demonstration of an ulcer. Reverse peristalsis has been noticed and appears to coincide with the nausea and certain acute pains which occur. Few are the cases in which we have satisfied ourselves with such diagnosis, and then only after additional evidence of a normal gall-bladder function by the intravenous cholecystogram. The symptoms and physical findings of duodenitis often closely simulate cholecystitis as well as duodenal ulcers. Temporary or transient obstruction and stasis of the duodenum from reflex spastic contraction, adhesions or ptosis, or stagnation of food in diverticulae may irritate the mucosa and set up a duodenitis.

The most enlightening data we have seen on this subject appeared in *Annals of Internal Medicine* under the title, A Clinical Study of Duodenitis, Gastritis, and Gastro-Jejunitis, by Dr. Andrew B. Rivers of the Mayo Clinic, April, 1931. He makes an analysis of a large series of patients who presented definite symptoms of peptic ulcer, but in whom operation revealed non-ulcerating duodenitis, gastritis or post-operative gastro-jejunitis. Many of these showed hemorrhages into the intact mucosa and some of this class had suffered severe loss of blood. Other cases he describes as having ulcers of various depths in the neighborhood of these hemorrhagic spots. The possibility of the development of ulcers from these congested areas is discussed. The roll of distant foci of infection as etiological factors in all of these, as well as the peculiarities of individuals who are subject to the development of ulcers, is not elaborated upon. A thorough study of this article will give one a much clearer idea of these conditions.

No guest should ever admit eccentricities of diet. If you are a dyspeptic or a vegetarian, either do not be a guest or else consume recklessly everything which your doctor has told you is poison to your system.—Edit. *New York Times*.

ROTUNDA HOSPITAL, Dublin, is the largest combined gynecological and maternity hospital in the British Empire. More than 4,000 confinements are attended annually.

E. L. GARNER and G. W. BISSETT of Duncan, B. C., report (*Canad. Med. Assn. J.*, Sept.) resection of small bowel following trauma in which 261 c.m. (102¾ inches) were removed with recovery.



MEDICINE in its every phase will be covered in the general and clinical sessions, the sixteen sections and the three conjoint meetings—the American Society of Tropical Medicine, the National Malaria Committee and the Southern Association of Anesthetists—making up the program for the New Orleans meeting—the **LAST WORD** in scientific and practical medicine and surgery. A medical meeting complete in every respect—at New Orleans, the great medical center and the city of romantic traditions, Wednesday, Thursday and Friday, November 18, 19 and 20.

AT THE SOUTHERN MEDICAL ASSOCIATION meeting one gets the most complete and best rounded out program and program arrangement—and just enough entertainment, social and recreational activities, to make a medical meeting complete. The Southern Medical Association meeting has an atmosphere known to no other medical meeting—the atmosphere of the new South tempered with the cordiality and charm of the old South.

AFTER NEW ORLEANS, PANAMA. An official S M A post-convention cruise to the Tropics—Panama, the Canal Zone, and another Tropic Port. A fine opportunity to see the Canal and the Tropics under favorable conditions, with congenial company and at low cost.

ARE YOU A MEMBER of the Southern Medical Association? Every physician in the South who is a member of his state and county medical societies can be and should be a member. The annual dues of \$4.00 include the Association's own Journal each month, the *Southern Medical Journal*—the equal of any, better than many. You will join **EVENTUALLY**, why not **NOW**?

SOUTHERN MEDICAL ASSOCIATION
Empire Building
Birmingham, Alabama

**Southern Medical Association—IN the South,
OF the South, FOR the South**

In Memoriam

Dr. Charles Wilson Kollock

On September 23rd, 1931, Dr. Charles Wilson Kollock, Emeritus Professor of Ophthalmology and Otolaryngology in the Medical College of the State of South Carolina, came to the close of a long life of great activity and distinguished service.

Dr. Kollock was born in Cheraw, S. C., April 29th, 1857, the son of Dr. Cornelius, and Mary Henrietta Shaw, Kollock. He received his early education in the schools of Cheraw and then entered the Virginia Military Institute at the age of 16, being graduated in 1877.

Dr. Kollock began the study of medicine in his father's office and entered the department of medicine at the University of Pennsylvania in 1878. He was graduated in March, 1881, and served for three years as interne at the Philadelphia Hospital, Children's Hospital and Will Eye Hospital in Philadelphia. He then went abroad and studied in the eye and ear clinics of London and Paris before beginning his career as a specialist in Charleston in 1885.

He rapidly attained to prominence in his profession. Very soon his ability was recognized and he was appointed to serve as ophthalmic and oral surgeon in the Shirras dispensary for many years. In 1913, when the faculty of our State Medical College was reorganized, he was made professor of diseases of the nose and throat, in which capacity he served the last 17 years of his life.

The medical organizations to which Dr. Kollock belonged included the South Carolina Medical Association, the Medical Society of South Carolina, the American Medical Association, the American Ophthalmological Society, the Oto-laryngological Society, the American College of Surgeons, the Tri-State Medical Association of Virginia and the Carolinas, and the Association of Air Surgeons, having served as president of the Medical Society of South Carolina and the Tri-State Medical Association.

He was a member of numerous civic organizations, only a few of which will be mentioned: Ex-president and honorary member

of the Rotary Club of Charleston, a former president of the Charleston Museum, ex-captain of the Charleston Light Dragoons, and at one time president of the Charleston Chapter of the Veterans of Foreign Wars.

During the World War Dr. Kollock served with ability in civil and military positions. He was active in the work of the draft exemption board when the United States first entered the conflict, and later accepted a commission as Captain in the Medical Corps of the U. S. Army. He was stationed at Mineola, Long Island, for a time, and was then transferred to Kelly Field Sanatorium where he was trained as a flight surgeon.

At the time of his discharge from the army in December, 1918, he ranked as lieutenant colonel. In recognition of his military service the remains were escorted to the grave by a detachment of marines from the Navy Yard, and a volley fired and taps sounded above his last resting place.

—Archibald E. Baker.

John B. Deaver, Master Surgeon

On September 25th Dr. John B. Deaver, Emeritus Professor of Surgery in the Medical School of the University of Pennsylvania and Surgeon-in-Chief to the Lankenau Hospital, Philadelphia, reached the end of a long life, replete with vigorous activity and distinguished service. In his going there was lost to American Medicine and Surgery one of its most interesting personalities and conspicuously distinguished surgeons. Dr. Deaver's professional life was spent in Philadelphia. As a dominant leader in that city his life will long be remembered for his part in making the medical history of his city and as a leader in its intellectual activities generally.

It is regretted that his earlier biographic record cannot be recorded; this brief word is intended only as a tribute to Deaver the man, the teacher, the surgeon. His earlier professional days were spent around the University of Pennsylvania and an ultimate surgical career must have been considered by him early in his professional life, for he spent many years in intensive anatomical studies and in the dissecting room. This early work was later reflected in his masterful book *Surgical Anatomy*. He was later appointed Clinical Professor of Surgery in the Univer-

sity Medical School and Attending Surgeon to the University Hospital; but he was most widely recognized in his association with the Lankenau Hospital, earlier known as the German Hospital, where he was Surgeon-in-Chief. Here he conducted two-weekly clinics, and his operating pavilion became the mecca of visiting surgeons from all parts of the world. Those who have attended his clinics will long remember the perfect organization of his operating room staff, the care and meticulous detail in study of cases, his unique and interesting manner of teaching, and the facility and dexterity with which he operated. It was not unusual for him to have 15 or more operations in an afternoon, often operating without an assistant, and one could but marvel at his endurance. As an operator he was bold, but his boldness was predicated on precise knowledge. He was confident, because he knew accurately what he intended to do and how to do it. There was never any hesitancy or mental confusion, and the adeptness with which he operated set him apart as an artist.

Dr. Deaver contributed greatly to the literature and technical advancement of surgery. He was a voluminous writer and a strikingly forceful speaker. He was one of the first to note and preach the need of making an early diagnosis in acute appendicitis, and then resorting to early operation. He was a veritable John the Baptist crying aloud in the Wilderness against the practice of purgation in this disease. He was a pioneer in his contributions to the knowledge of gall-bladder and stomach pathology and physiology, and his technical improvements in operating for these conditions stamped him the skillful and resourceful surgeon.

Early in August of this year the writer was privileged to visit Dr. Deaver at his summer home near Brigantine, New Jersey. It was then apparent that his days of activity were near an end. He had not worked for several months, and he was aware that the dreaded aplastic anemia was slowly snapping his strength. Yet, he showed no lack of interest in his various activities. He had accepted an invitation to read a paper before the Southeastern Surgical Congress at Birmingham, Alabama, next March, and discuss-

ed this with the writer. Just one week before he died did he realize the end was near and that he would be unable to fill this engagement, and he advised the program committee accordingly.

Thus came to a close the life of this master surgeon, this man of science, this great teacher. We cannot say it was prematurely, for he had lived his three-score-and-ten, and five years. He died at the height of his fame and usefulness, and, unfortunately, he had not trained any younger man to take up his work where he had left off.

He will long be affectionately remembered by those who knew him, and especially by those who enjoyed the privilege of his friendship. He was an honor to his profession, to his country and to humanity.

—William Marvin Scruggs.

THE RIGHT WAY TO STRAP BACKS

(T. P. Brooks, St. Louis, in *Jl. Missouri Med. Asso.*, Oct., 1931)

Strips of three-inch adhesive are prepared, long enough to reach from in front of the anterior superior spine of the ilium on one side to in front of the greater trochanter of the femur on the opposite side. The back must be exposed from the last ribs to the lower line of the buttocks. The patient stands facing a table or other immovable object. One strip is anchored on either side of the pelvis starting two inches in front of a line dropped from the anterior superior spine of the ilium and lying between the levels of the crest of the ilium and the greater trochanter. This is placed on an angle of 20 degrees from the horizontal, inclining toward the greater trochanter of the opposite side. The patient places a hand over each strip end to prevent its slipping before being secured.

The doctor stands directly behind the patient, catches the loose ends of the two strips, the one from the patient's left side in his right and that from the patient's right in his left hand. Each strip is held firmly between the tips of all four fingers and the palm, otherwise the strength of the pull is greatly diminished and the adhesive tends to wrinkle. Crossing each other over the midline of the sacrum, the two strips are pulled tightly, at the same time laying them smoothly down, under tension on the skin. Two pairs of such straps will hold a sacro-iliac or lumbo-sacral strain nicely. A strain or pain from arthritis in the lumbar spine may require three pairs, each overlapping its predecessor for one-half of its width.

This method of strapping, by its pull on the wings of the ilia, rotates them posteriorly and immobilizes the sacro-iliac synchondroses, relieving strain in these joints.

NEWS ITEMS

(Dr. Jas. K. Hall, Richmond, and Dr. L. B. McBrayer, Southern Pines, contribute regularly)

DOCTORS ENDOW THEIR COUNTY MEDICAL SOCIETY

(*Bulletin*, St. Louis Co. Med. Soc.)

The Endowments Committee acknowledges with grateful appreciation the benefactions under the wills of Dr. Oscar H. Elbrecht and Dr. David S. Booth, each for \$1,000.

Both of these deceased members were always active in Medical Society affairs. They appreciated the good which redounds to the members of the Medical Profession, to the Public and to the State through medical organization. Feeling as they did, they have provided endowments to perpetuate the usefulness of the St. Louis Medical Society. The benefactions of these men will undoubtedly encourage others to similar action.

How can any one, physician or layman, better promote human welfare and perpetuate his own usefulness than by creating an endowment fund for the use of [his] Medical Society? There can be no better day.

Dr. Elbrecht's bequest is as follows:

"I give and bequeath unto the Medical Society of St. Louis, Missouri, the sum of One Thousand Dollars (\$1,000)."

The provisions under the will of Dr. Booth are as follows:

"I give and bequeath to the St. Louis Medical Society the sum of One Thousand Dollars (\$1,000) to be held as a separate trust fund and the income therefrom to be used to purchase books and other publications for its library, together with the wish that the Society may become democratic and representative in its activities."

Each endowment will forever bear the name of the donor to the end that as long as medical organization exists, which must last as long as civilization, their usefulness and their names will be perpetuated.

THE RED CROSS

The American Red Cross distributed 610,000 assortments of garden seed to farmers in the stricken drought areas for the spring and summer gardens of 1931. Each assortment contained from 14 to 18 different varieties of seed and had a retail value of from \$3.50 to \$4. The total cost to the Red Cross was more than the sum spent out of the national

organization's treasury in the previous year for disaster relief. Such services to victims of disasters is made possible by the support of the public. One of the avenues of public support is the annual Red Cross Roll Call which will be held this year from November 11th to November 26th.

Observance of the Golden Anniversary of the American Red Cross this year marks that society's fiftieth year of service to humanity. Do your bit by joining.

Among the domestic disasters in which the Red Cross gave aid to victims during the fiscal year ended June 30th, 1931, were floods in Arizona, Texas and New Mexico; tornadoes in Minnesota, Texas, Oklahoma, Mississippi, Arkansas, North Carolina and Kansas; cloudbursts in Utah and Texas; mine explosions in Oklahoma, Ohio and Indiana; fires in Florida and Maine; forest fires in Wisconsin, Michigan, California and Tennessee; a railroad accident in New Jersey and a typhoid fever epidemic in Ohio. In the insular and foreign territory aid was given in floods in Turkey; a hurricane in Santo Domingo; earthquakes in Mexico, Albania, New Zealand and Nicaragua; a storm in American Samoa; and three fires in Porto Rico. The public support of the Red Cross by membership enables the organization to come to the rescue of afflicted communities at all times.

LINCOLN PROFESSIONAL CLUB

The Lincoln Professional Club, composed of physicians, lawyers, dentists and pharmacists, held its 3rd quarterly meeting at the North State Hotel, the evening of September 21st. Dr. L. A. Crowell, sr., president, Dr. I. R. Self, secretary. Dr. L. L. Self, of Cherryville, Dr. J. M. Northington and Dr. J. E. S. Davidson, of Charlotte, all associate members of the club, were present and made short talks. Dr. C. H. Harrill, dentist, who has recently moved back to Lincolnton from Shelby, was welcomed as a new member of the club.

The Catawba Hospital for the Tuberculous was discussed and Dr. L. A. Crowell, sr., who has pioneered in behalf of the four counties of Lincoln, Catawba, Caldwell and Burke taking over the hospital and operating it, spoke very forcibly in urging that this action be taken.

Others attending were Drs. W. V. Costner,

W. F. Elliott, J. R. Gamble, C. H. Harrill, A. M. Cornwell and W. C. Kizer; Attorneys K. B. Nixon, Waverly Rudisill, W. H. Childs, W. A. Dennis, W. M. Nicholson, L. E. Rudisill, A. L. Quickel; Pharmacists Drayton Wolfe and B. P. Costner.

RICHMOND ACADEMY OF MEDICINE—
MILLER LIBRARY

Contracts have just been let for a brick and stone building at Twelfth and Clay streets, which will become the home of the Richmond Academy of Medicine, building and site to represent an expenditure of \$90,000.

The building committee consists of Dr. Stuart McGuire, chairman; Dr. M. L. Anderson, Dr. W. B. Blanton, Dr. R. C. Bryan, Dr. J. K. Hall, Dr. J. S. Horsley, Dr. J. M. Hutcheson, Dr. R. W. Miller, Dr. C. R. Robins, Dr. J. H. Smith and Dr. Douglas Vander-Hoof.

The new college library will be situated on Twelfth street, south of the academy. It will be of uniform architectural detail, and the two buildings will be joined by an enclosed corridor. Architects and contractors will be the same for both.

THE MILLER LIBRARY, which will now come into the possession of the Academy of Medicine, is the property of Dr. Joseph L. Miller, of Thomas, W. Va., who for 30 years has been collecting original data to an extent that has established him as a national authority. His library now consists of 700 manuscripts, 3,000 volumes, and an equal number of etchings and engravings, many of which date back to the earliest days of printing. With the possible exception of the surgeon general's office in Washington there will be found in this country no medical historic library surpassing it.

As a native Virginian and a graduate of the Medical College of Virginia it is Dr. Miller's wish that it shall remain permanently within the State and he offered it to the Richmond Academy of Medicine with the single proviso that it be adequately protected.

MR. C. J. NEUBERT, business manager of THE CROWELL CLINIC, Charlotte, has returned from Toronto, where he attended the 6th Annual Convention of the Clinic Managers of North America.

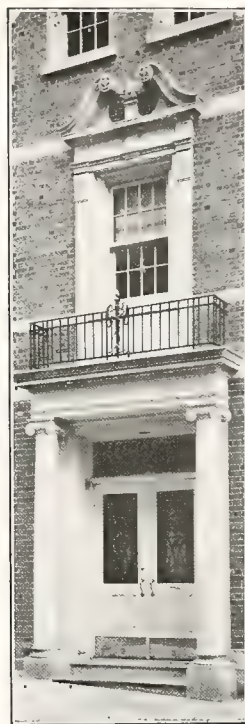
Montague Hospital

Exclusively for
RECTAL
and
COLONIC
AILMENTS

*Offering special
facilities for the
diagnosis and
treatment of rec-
tal and colonic
diseases.*

36th St. East of
Lexington Ave.

New York
City



THE NINTH DISTRICT (N. C.) MEDICAL SOCIETY held its annual meeting at Lexington Sept. 24th. The meeting was called to order by the Councilor, Dr. M. R. Adams, Statesville, who turned over the gavel to the President, Dr. B. W. McKenzie, Salisbury.

Papers: Early Diagnosis of Acute Abdominal Conditions, Dr. J. B. Helms, Morganton; Pernicious Anemia of Pregnancy, Dr. C. W. Ashburn, Statesville; Childhood Tuberculosis, Dr. G. W. Kutscher, jr., Asheville; Pyorrhea, Dr. W. D. Gibbs, Charlotte; Effect of General Infections Upon Local Conditions, Dr. Wingate Johnson, Winston-Salem; Relation of Vincent's Infection and Pyorrhea to Pulmonary Abscess and Chronic Bronchiectasis, Dr. David T. Smith, Durham; Strabismus in Children, Dr. J. W. White, New York City.

Dr. Smith advanced the opinion that Vincent's infection is the direct cause of the vast majority of lung abscesses, an opinion which has elicited an acute interest on the part of doctors generally.

Dr. White's exposition of his subject brought forth many expressions of approbation and appreciation of the information brought the meeting by this guest.

After the dinner at which the energetic Secretary, Dr. J. W. Davis, Statesville, serving as Toastmaster, the program was concluded:

The Family Doctor and the Children in His Practice, Dr. Frank Howard Richardson, Black Mountain; The Insurance Company and the Doctor, Dr. Harry Winkler, Charlotte.

Dr. Jacob Sowers, Chairman of the Entertainment Committee, won enthusiastic praise for the highly efficient discharge of the duties of his office.

THE EIGHTH DISTRICT (N. C.) MEDICAL SOCIETY held a highly successful meeting at Reidsville October 2nd, under the following officers: Dr. S. G. Jett, Reidsville, President; Dr. C. V. Tyner, Leaksville, Vice-President; Dr. T. C. Redfern, Winston-Salem, Secretary-Treasurer; Dr. T. C. Redfern, Winston-Salem, Councilor.

Subjects presented: Dental Hygiene, Dr. E. A. Branch, State Board of Health; Peroral Endoscopy and Surgery, Dr. G. C. Cooke, Winston-Salem; Early Diagnosis of Carcinoma of the Stomach, Dr. R. C. Mitchell, Mt. Airy; Appendicitis, Dr. C. V. Tyner, Leaksville; Infantile Diabetes, Dr. M. Y. Keith, Greensboro; Choice of Anesthetic, Dr. W. H. Sprunt, Winston-Salem; Phrenicotomy, Dr. R. B. Davis, Greensboro; General Infections and Local Conditions, Dr. Wingate Johnson, Winston-Salem; Report of Councilor, Dr. T. C. Redfern, Winston-Salem.

Barbecue and Brunswick Stew at Penn's Lake, followed by an after-dinner talk by Mr. Irving S. Cobb.

At the monthly meeting of the CUMBERLAND COUNTY (N. C.) MEDICAL SOCIETY, September 22nd, Your Nursing Service was discussed by Miss L. Carey Jones, R.N., Atlanta, Ga.; Practical Electrical Treatment in General Practice, by Dr. W. W. Whittington, Snow Hill, N. C.; and Management of Ocular Deviation, by Dr. J. N. Robertson, Fayetteville, N. C.

O. L. McFADYEN, M.D., *Secretary*.

THE BUNCOMBE COUNTY (N. C.) MEDICAL SOCIETY, meeting Sept. 7th, had as its speaker Dr. Arthur I. Kendall, Professor of Bacteriology, North Western Univ., Chicago. His subject was Filterability of Bacteria.

THE WAYNE COUNTY MEDICAL SOCIETY has appointed an advisory committee for the Wayne County Health Department as follows: Drs. J. W. Wilkins, Mt. Olive; W. G. Sutton, Seven Springs; Luby Warrick, Grantham; Cooper Person, Pikeville; L. O. Hayes, Fremont; W. B. Crawford, Fork Township.

MECKLENBURG COUNTY (N. C.) MEDICAL SOCIETY, meeting Myers Park Country Club, Sept. 15th. The guest speakers of the evening were Dr. W. C. Davison, Dean of the School of Medicine, Duke University; Mr. V. P. Rousseau, of the Charlotte Merchants' Association, and Mr. J. Laurence Jones, of the Charlotte Bar.

Dr. G. N. Carter, of Boynton, was elected president of the MECKLENBURG COUNTY (VA.) MEDICAL SOCIETY at the meeting held at Boynton Sept. 22nd. Dr. B. S. Yancey, of Chase City, was elected vice-president, and Dr. A. T. Finch, of Chase City, was re-elected secretary-treasurer. Dr. W. W. Wilkinson, of La Crosse, was named as delegate to attend the State meeting in Roanoke next month.

THE SOUTHWESTERN VIRGINIA MEDICAL SOCIETY met at Marion September 24th and 25th. Dr. Horton Casperis, of Vanderbilt University, guest speaker, addressed the doctors on Allergy in Children. Dr. E. G. Gill, of Roanoke, delivered the president's address. Papers were read by Dr. I. A. Bigger, of Richmond; Dr. J. C. King, of Radford; Dr. Thomas E. Spessard, of Roanoke; Dr. George B. Lawson, of Roanoke; Dr. Frank H. Smith, of Abingdon; Dr. J. Glenn Cox, of Hillsville; Dr. S. A. Tuck, of Eggleston.

DR. W. P. SPEAS has removed from Hickory to Winston-Salem.

THE CATAWBA VALLEY MEDICAL SOCIETY, embracing the counties of Burke, Caldwell, Catawba and Lincoln, has taken under consideration ways and means for reopening the Catawba Tuberculosis Hospital, near Newton, closed last winter because of a lack of funds. A committee was appointed to consider what can be done and to report at the next meeting. This committee is composed of Dr. E. W. Phifer, Morganton, chairman,

and Dr. C. H. Menzies, Hickory, Dr. W. P. Richardson, Lenoir, and Dr. W. F. Elliott, Lincolnton.

THE JOHNSTON COUNTY MEDICAL SOCIETY was entertained the evening of Sept. 30th at Sanders' lodge at a barbecue supper by those members who have been practicing medicine in Johnston county for exactly 25 years, namely: Dr. George D. Vick, of Selma; Dr. A. H. Rose, of Smithfield; Dr. Battle A. Hocutt, of Clayton; Dr. H. H. Utley, of Benson, and Dr. G. A. McLemore, of Smithfield.

Among the invited guests were Dr. J. M. Parrott, State Health Officer, who made a talk; Drs. C. S. Mangum and I. H. Manning, of the University; Dr. Hubert A. Royster, of Raleigh; Dr. T. M. Jordan, of Raleigh, who has been practicing medicine in North Carolina for more than 50 years; Dr. A. S. Oliver and Mr. Warren S. Booker, of Raleigh.

At the meeting of the MECKLENBURG COUNTY (N. C.) MEDICAL SOCIETY, October 6th, Dr. DeWitt R. Austin, Charlotte, described An Improvement in the Technique of Making Stereoscopic X-ray Pictures, and Drs. Raymond Thompson, E. J. Wannamaker and J. W. Gibbon presented case reports.

THE NORTH CAROLINA SURGICAL CLUB was entertained by Dr. Donnell B. Cobb in Goldsboro October 2nd and 3rd. An informal luncheon at the hotel, a diagnostic clinic at the Goldsboro Hospital, an address by Dr. Hubert Royster, Raleigh, at Dr. Cobb's home, made up the program of the club's meeting. The monthly meeting of the Wayne Medical Society met at the Woman's Club building at 7 p. m.

The group of visiting surgeon's included Drs. Julian Moore, Asheville, president of the club; R. O. Lyday, Greensboro; R. B. McKnight and John P. Kennedy, Charlotte; Hunter Sweaney, Durham; David Tayloe, Washington; J. D. Highsmith, Fayetteville; W. H. Sprunt, Winston-Salem, and Whitehead McKenzie, Salisbury.

On the 3rd the group enjoyed a deer hunt in Onslow as Dr. Cobb's guests.

The Woman's Auxiliary of the GUILFORD COUNTY MEDICAL SOCIETY has made practical

plans for continuing its two main projects, a bed at Sanitarium and a student loan fund.

Major General N. G. Oteen, commander of the S. C. division of the United Confederate Veterans, announces the staff appointment of Dr. W. M. REEDY of Clio, S. C., as surgeon general with the rank of lieutenant colonel.

Dr. Reedy, who is 85 years old, is Clio's oldest and most beloved citizen. At the age of 16 he entered the war and served until the close. After graduating from Louisville Medical College, Louisville, Ky., he practiced medicine for a number of years at Stanley, N. C.

DR. FREDERICK R. TAYLOR, High Point, has removed his office from the Commercial National Bank Building to his residence, 1113 Johnson Street. Practice includes General Internal Medicine, Health Examinations, Nervous Diseases and Electrocardiography. Hours 9 a. m. to 12 m.—1:30 to 4 p. m. Sundays and other hours by appointment. Telephone 2460.

DR. WILLIAM WESTON, of Columbia, managing director of the South Carolina Natural Resources Commission, addressed a public meeting at the courthouse at Gaffney, S. C., Sept. 18th, sponsored by the Rotary, Lions, Crustbreakers, Woman's Clubs, and other civic organizations.

A committee from the STATE MEDICAL SOCIETY composed of Dr. John B. Wright, Raleigh, president-elect, Dr. L. A. Crowell, Lincolnton, Dr. J. K. Pepper, president, State Board of Medical Examiners, Winston-Salem, Dr. Hugh Thompson, Raleigh, and Dr. A. G. Brenizer, Charlotte, were appointed to confer with the Industrial Commission having in charge the administration of the Compensation Act in regard to fees charged by physicians.

DR. CHARLES C. BRACE, Tarrytown, N. Y., president of the Denver Chemical Manufacturing Company, died on August 26th.

A letter from the Coroner, Oct. 12th, says the marihuana habit is becoming more prevalent.

DR. ROBERT B. NYE, of Kings Mountain, recently graduated from the University of North Carolina School of Medicine (2 years) and Jefferson Medical School, has been appointed director of the new \$1,500,000 Curtis Clinic at Jefferson Medical School.

DR. WILLIAM S. ANDERSON, son of Dr. and Mrs. Wade Anderson, of Wilson, has been appointed resident house officer at John Hopkins Hospital, Baltimore.

DR. GEORGE GAYLORD SIMPSON, director of the Scarritt Patagonian expedition, announces:

There is no doubt that Patagonia is the center where the mammal originated.

It was the first place which saw the evolution of warm-blooded creatures, which were soon to dominate and practically drive out the cold-blooded reptiles which had been the only form of life on the earth.

DR. G. W. KUTSCHER, JR., recently Fellow in Pediatrics, Charity Hospital, New Orleans, and Assistant in Pediatrics at Tulane University, has reopened his offices at No. 36 Grove street, Asheville, N. C. Practice limited to diseases of children.

Of the 2,500 physicians practicing their profession in Virginia, 1,126 are graduates of the Medical College of Virginia.

DR. GLENN WILSON, native Sampsonian, now located in Dunn, has been elected health officer for Sampson county, succeeding Dr. John D. Kerr, resigned.

MARRIED

Dr. Weston Bruner, jr. (A.B. Univ. of N. C., M.D. Univ. of Penn.), Washington, D. C., and Miss Leah Smith (A.B. Univ. of N. C.), Capron, Va., October 2nd.

Dr. William Wallace Fennell, jr., Rock Hill, S. C., and Miss Emily Cope, Savannah, Ga., September 12th.

Dr. Richard W. Spicer, of Winston-Salem, and Mrs. Stuart Hayden Rogers, daughter of Mrs. Z. V. Conyers, of Greensboro, August 31st.

Dr. George Preston Nowlin, Charlotte, N. C., and Miss Mary Ann Jones, Lynchburg, Va., October 10th.

Our Medical Schools

UNIVERSITY OF VIRGINIA

Dr. Lawrence T. Royster gave a course of lectures on The Physical Examination of the Child before the Southern Pediatric Seminar at Saluda, North Carolina, during the first week of August.

Dr. Edwin L. McQuade, recently County Health Officer of Henrico, and for the past two years Assistant in the Department of Epidemiology of the School of Hygiene, Johns Hopkins University, has assumed his duties as Assistant Professor of Public Health in succession to Dr. George B. Young, who retired at the close of the last session.

Dr. Kenneth B. Maxey and Dr. Edwin L. McQuade attended the meeting of the American Public Health Association in Montreal from September 14th to 17th.

Dr. William H. Goodwin and Dr. Henry B. Mulholland represented the Medical School on the program of the Mercer County Medical Society, meeting at Bluefield, West Virginia, from September 24th to 26th. Dr. Goodwin's contribution was on Endometriosis, Dr. Mulholland's on Diabetes with special reference to children.

Dr. Vincent W. Archer attended the meeting of the American Roentgen-ray Society at Atlantic City from September 22nd to 25th. Dr. Archer was chairman of the Committee on Awards for the Scientific Exhibits.

Dr. John M. Nokes, for the past two years Instructor in Obstetrics and Gynecology at the Medical School of Vanderbilt University, has been appointed Assistant Professor of Obstetrics and Gynecology.

The Medical School opened on September 21st with a total enrollment of 240. The entering class numbers 68.

Col. M. L. Cdimmins, U. S. Army, retired, visited the Medical School on October 1st. He spoke before the Albemarle Medical Society in Charlottesville on the subject of Rattlesnake Venom.

DUKE

On August 17th, Dr. Hart read a paper on Skin Transplantation at the meeting of the Buncombe County Medical Society in Asheville, N. C.

On August 19th, Miss Bessie Baker, Dean

of the School of Nursing, and Mrs. Nancy L. Lawlor attended the meeting of the North Carolina State Nurses' Association, at Black Mountain, N. C., at which Mrs. Lawlor presented a paper on the Relationship Between the Hospital and Public Health.

On September 1st, the following new members of the staff were added: Dr. Angus M. McBryde, of the University of Pennsylvania, Instructor in Pediatrics; Dr. Walter B. Mayer, of the University of Pennsylvania, Assistant in Medicine; Dr. Harold Finkelstein, Assistant in Surgery; Dr. Anne Lawton, of Yale University, Assistant in Pediatrics, and Mr. Morton F. Mason, of Oregon State College, Assistant in Biochemistry.

On September 10th, Doctors Carter, Hart and Davison spoke at the meeting of the Medical Society at Danville, Va.

On September 15th, Dr. Davison spoke at the meeting of the Mecklenburg Medical Society, at Charlotte, N. C.

On September 11th, the Duke Hospital gave its annual barbecue followed by the meeting of the Durham-Orange County Medical Society.

On September 24th, at the meeting of the Seventh District Medical Society, at Sumter, S. C., Dr. Hart presented a paper on The Treatment of Chronic Empyema by Preliminary Tidal Irrigation by Thoracoplasty, and Dr. Shands a paper on Infection In and About the Hip Joint.

WOMAN'S AUXILIARY

MRS. P. P. MCCAIN, Sanatorium, N. C.

Mrs. J. L. Sowers, State Chairman for Hygeia, is urging all doctors' wives to help place *Hygeia*, the lay official journal of the A. M. A., in as many doctors' and dentists' offices and school libraries as possible as well as urging that doctors' homes be supplied with them. Why not give *Hygeia* for Christmas?

The Cumberland County Auxiliary held its first meeting of the fall with Mrs. Julius Johnson at her beautiful new home at Fort Bragg with a goodly number present. Mrs. L. L. Williams, the President, presided. Mrs. Johnson gave a report of the Durham meeting. Plans for the new year were made.

Our State President, Mrs. R. S. McGeachy, attended the National American Legion meeting in Detroit.

Recently a woman went to the President of

a county council of P. T. A. and asked that her daughter be allowed to hold clinics in the county. The daughter—a "doctor"—would also give lectures or do anything that she could to help the schools of the county. During the course of the interview, the lady gave the names of two doctors—M.D.'s—in towns not so very far away. Upon closer inquiry the lady turned out to be an osteopath! The message was delivered to the council meeting but was immediately laid low. The "doctor" is leader of the Girl Scouts in one of the best small towns in the State. A good thing—a definite project—for Auxiliary members, for what right thinking doctor's wife would want her daughter under an osteopath?

BOOK REVIEWS

HYPERTENSION AND NEPHRITIS, by ARTHUR M. FISHBERG, M.D., Associate Physician to Beth Israel Hospital; Adjunct Physician to Mount Sinai Hospital, New York City. 2nd edition, thoroughly revised and enlarged; illustrated with 38 engravings and 1 colored plate. Lea & Febiger, Philadelphia, 1931. \$6.50.

This field being one in which important advances are being frequently made, extensive revision is represented in this edition. Diagnosis by bedside methods aided by the essential laboratory procedures which are available to every family doctor are those stressed. The author gives the unqualified opinion that the uncomplicated specific gravity test is the best method known for studying the functional capacity of the kidneys, and that study of the blood chemistry is needed in only a few cases. Simplicity and economy are kept in mind throughout. Edema may be nephritic, nephrotic, or cardiac. The discussion of the causation of edema is detailed and convincing. Treatment directed to edema is well thought out and gives much consideration to the patient's comfort—an unusual and highly valuable feature. Uremia can be defined no further than to say it is a condition resulting from retention of urinary constituents. The foundation of the diet in renal insufficiency is protein restriction. Systolic pressure of 150 is abnormal at any age, as is a diastolic of 100. The most extreme arteriosclerosis is often present in individuals with low blood pressure. The mechanism of blood pressure elevation, hypertensive cerebral phenomena and neuro-retinopathy, be-

nign albuminuria, focal nephritis, the nephritides, essential hypertension, renal and hypertensive disease of pregnancy—all these are discussed in a most enlightening manner.

The book speaks out in a plain, direct, confident way, which betokens intimate knowledge of this important subject. It is written with a view to keep doctors to help sick folks. Any author so thoughtful and knowledgeable as to write it down that the palatability of the salt-poor diet may be improved by the use of onion, lemon juice, vinegar, mustard, pepper and nutmeg, should be studied attentively. This book should be studied attentively by every practitioner of medicine.

GNORRHEA IN THE MALE AND FEMALE: A Book for Practitioners, by PERCY S. PELOUZÉ, M.D., Associate in Urology and Assistant Genito-Urinary Surgeon at the University of Pennsylvania; Fellow of the Philadelphia College of Physicians, Philadelphia, Pa. Second Edition, Revised. 440 pages with 92 illustrations. Philadelphia and London: *W. B. Saunders Company*, 1931. Cloth, \$5.50 net.

The anatomy and histology are described in such a way as to enable the reader to see the *application* of this knowledge to the cases of his patients—real *applied anatomy*. The appearance and growth and staining peculiarities of the causative organism are given in a plain and practical way. The chapter on susceptibility and immunity deals clearly with problems of the greatest importance to doctor and patient. As symptoms are enumerated their causes are made clear. The microscopic interpretation of urethral discharge is given on the basis of staining peculiarities of the organism and evidences of inflammatory reaction and tissue destruction. What course the disease may be expected to take, how to avoid most complications and prophylaxis make important chapters.

The author tells us that what certain chemicals will do to gonococci in a test tube has little relation to what will happen in the urethra, that our antiseptics do good only in so far as they encourage tissue reaction. Most common dietetic restrictions of patients with gonorrhea are foolish. There is little to support oral medication. The general tendency is to use silver solutions too concentrated. The technique of *the best* treatment of gonorrhea and

its complications is given in clear detail, as is that of prostatic massage. An analysis of 48 case histories portrays for the reader gonorrhea as it will come into his office. Part III deals after the same portion with gonorrhea in the female. Unquestionably this is the most helpful book in the management of this serious disease that has come to our attention. It tells what *should* be done, not what *may* be done; and it tells why.

THE FOUNDATIONS OF MEDICAL HISTORY, by SIR D'ARCY POWER, K.B.E., F.R.C.S. (Eng.) The First Publication of Johns Hopkins University Institute of the History of Medicine. *The Williams and Wilkins Co.*, Baltimore, 1931. \$3.00.

This series of lectures is delightful in every way. The story of old St. Bartholomew's through its 800-year career is absorbingly entertaining and rarely instructive. "Dining With Our Ancestors" tells us how, when and what man has eaten through the ages past, and particularly how the Englishman came to his roast beef and leg of mutton and his plum pudding. The remaining four lectures are, likewise, masterpieces. A feature of special attractiveness is the lecturer's constant use of robust Anglo-Saxon (or, as he says, Old English) words, many of which are rapidly going out of usage with us.

PHYSICIANS' MANUAL OF BIRTH CONTROL, by ANTOINETTE F. KONIKOW, M.D. *Buchholz Publishing Co.*, New York.

The author has been actively interested in birth control for many years; she published a pamphlet, "Voluntary Motherhood," in 1923. Since then she has studied the subject broadly and at first hand. The book presents the subject historically, sociologically and practically in non-technical language.

Prejudices against prevention of conception are discussed in a wholesome judicial manner. Low-risk and high-risk periods are specified. Sufficient anatomy and physiology are included to give a knowledge of why certain measures may be expected to prevent conception and to enable the reader to comprehend descriptions of how to carry them out.

The need, the methods, and the effects are plainly detailed from a large experience looked on with clear eyes.

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., Supt.)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

Obstetrics and Gynecology

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS FANNIE AUSTIN, Nurse

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. Urologist

CHARLES S. MOSS, M.D. Surgeon

O. J. MACLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE Pathologist

INTERNAL MEDICINE

JAMES M. NORTINGTON, M.D.

Diagnosis and Treatment
in

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park

Arkansas

JAMIE W. DICKIE, B.S., M.D.

INTERNAL MEDICINE
DISEASES OF THE CHEST

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

Fifteen West Seventh Street

Charlotte

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.—HARRY WINKLER, M.D.

Practice Limited to
ORTHOPEDIC SURGERY and FRACTURES

105 W. Franklin Ave.

Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761

Burlington

North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J

3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

Telephone: Office—4063

Hours—9 to 5 and by Appointment

219-23 Professional Bldg.

Charlotte

HOUSER CLINIC

FOR TONSILS AND ADENOIDS

415 N. Tryon St.

Phone 4063

FOR SPACE RATES

Address

806 Professional Building

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

NERVOUS AND MENTAL DISEASE

ADDICTIONS

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.

RAYMOND THOMPSON, M.D.

CLAUDE B. SQUIRES, M.D.

THEODORE M. DAVIS, M.D.

Prostatic Resection and

Operative Cystoscopy:

THEODORE M. DAVIS, M.D.

CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology:

ROBERT H. LAFFERTY, M.D.

CLYDE C. PHILLIPS, M.D.

Proctology:

L. D. MCPHAIL, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone Hemlock 3106

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay

Dr. Robert McKay

DOCTORS McKAY and McKAY*Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.**Charlotte**

Residence Phone 1858

Office Phone 1857

W. B. LYLES, M.D.

Practice limited to

UROLOGY and UROLOGIC SURGERY

Hours 9-5—Sundays by Appointment

221 East Main Street**Spartanburg, S. C.****BROCKMAN'S PROCTOLOGIC CLINIC**THOS. BROCKMAN, M.D., *Director**PRACTICE LIMITED TO
DISEASES OF THE COLON AND RECTUM***Colonial Apartments****Greer, S. C.****WYETT F. SIMPSON, M.D.***GENITO-URINARY DISEASES*

Phone 1234

Hot Springs National Park Arkansas**SURGERY****ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building Charlotte**R. B. McKNIGHT, M.D.***SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30—5

Professional Building Charlotte**WILLIAM FRANCIS MARTIN, M.D.***GENERAL SURGERY
GYNECOLOGY***Professional Building Charlotte****WM. MARVIN SCRUGGS, M.D., F.A.C.S.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building Charlotte**HAROLD GLASCOCK, M.D.***GENERAL SURGERY and
DIAGNOSIS*

Office At

**Mary Elizabeth Hospital
Raleigh, N. C.**

Filterable Bacteria*

ARTHUR ISAAC KENDALL, Chicago

Professor of Research Bacteriology, Northwestern University Medical School

The belief that bacteria may exist under certain circumstances in a filterable form, too small to be seen by direct observation, but viable even after passage through the finer grades of stone filters, is an old one. Experimental evidence, at first meagre and severely criticised by contemporary workers, has accumulated during the last three decades and, with methods of increasing refinement, has gradually gained the reluctant approbation of many, but by no means a majority, of investigators.¹ Many difficulties, not the least of which is a convincing procedure for the demonstration of microbes in the filterable state, have stood squarely in the way of studies upon this puzzling problem, and it is not surprising to find well grounded opposition to the experiments which are relied upon for positive evidence. The problem is not merely an academic one: enmeshed in this question of microorganisms in a filterable states is a large and formidable group of diseases of plants, animals and man, which in the aggregate cause greater losses in life, health and wealth than any others known to biology. A recital of some diseases peculiar to man will substantiate this rather broad assertion. It seems quite certain, for example, that the contagious type of poliomyelitis, of lethargic encephalitis, certain of the exanthemata, influenza and the group of common colds, as well as some types of rheumatism and arthritis, may belong in this category. Isolation of the exciting agents of this formidable group, and study of their characteristics, should, judging from experiences of the past, lead to the development of preventive and therapeutic measures. It should be borne in mind that these organisms may, and quite possibly do, exist in two states, filterable and non-filter-

able. Hence the problem of diagnosis, prevention and cure is correspondingly complicated.

Certain evidence of the possible existence of certain bacteria in two states, one filterable through stone filters, the other not filterable, has been presented in another place.² The technical details, of interest to the laboratory, need not be recited here, other than for the purpose of indicating their bearing upon clinical problems. The salient facts are, briefly, these: blood from seven cases diagnosed as influenza was introduced into a specially devised protein-rich, peptone-poor medium (*K* medium).³ Cloudiness developed gradually in three cultures, four remained unchanged. Intravenous injection of 0.5 c.c. of culture from the fourth transfer of two of these cloudy mediums induced severe sneezing in each of two rabbits within 24 hours. Similar material from the negative cultures induced no symptoms in other, control, rabbits kept under similar conditions. From the blood serum of these two infected rabbits, filtered through Berkefeld *N* filters, and from filtrates of the rabbit inocula, respectively, growths were obtained in *K* medium, which were kept alive through successive transfers. It is important to remember that in none of these cultures in *K* medium could formed elements be demonstrated satisfactorily by staining methods that suffice to demonstrate ordinary bacteria, and that dark-field examinations were inconclusive. Growths were not obtained in ordinary peptone-containing mediums, even those enriched with serum. Finally, after repeated transfer in *K* medium, tiny, dew-drop colonies were obtained on agar plates. These, upon recultivation, gradually became larger, opaque, and eventually emerged as gram

*Presented to the Buncombe County (N. C.) Medical Society, meeting at Asheville, September 7th, 1931.

positive diplococci which stained readily and grew with moderate luxuriance. They will be described in detail in a forthcoming publication. Reintroduced into *K* medium they could be recovered again upon filtration in the filterable state, capable of growing in this condition in *K* medium, but reluctant to develop again in peptone-containing mediums. However, by careful manipulation, cultures were had as before upon agar plates. By this time they appeared to have lost their original virulence for rabbits.

This loss of virulence and the associated phenomena might suggest that perhaps after all these observations were due to undetected contamination or some associated microbe that had been overlooked. This possibility is freely admitted. However, one method of control readily presents itself; if this diplococcus from influenza cases exists in a filterable and a non-filterable state, interchangeable through the use of *K* medium, filtration, and plating upon agar, other bacteria might reasonably be expected to undergo the same series of changes. This very obvious experiment was tried, first with an old laboratory culture of *B. typhosus*, then with Rosenow's polio streptococcus, Dochez's streptococcus from scarlet fever, staphylococcus, and some other organisms. All of these, after growth in *K* medium, were passed through Berkefeld *N* filters, and the filtrates reinoculated both in *K* medium, and in peptone-containing mediums. To make a long story short, typically morphological cultures of *B. typhosus*, agglutinating readily with typhoid agglutinating serum were obtained from the filtered typhoid culture, and apparently typical strains of the others were also secured. At this point, the question of leaky filters naturally arises. Is it not possible that a few viable bacilli passed into the filtrates through undetected flaws in the filters themselves, even though they were new and freshly tested?

One of the most thoroughly tested filtrates known to bacteriology is that puzzling phenomenon known to bacteriology as bacteriophage, or, more briefly, phage. Innumerable attempts have been made to isolate viable bacteria from phage filtrates. Perhaps the most convincing fact relating to phage is its keeping quality; phage remains unchanged for months, still retaining its peculiar property. This is significant. It

would appear that the cultural ingredients of phage (nutrient peptone broth) do not, even during long periods of time, offer conditions for the growth of the microbes that were originally in it. From such an apparently sterile phage solution (staphylococcus phage) ten months old, growths were obtained after several days in *K* medium. These growths were had from an originally small amount of inoculum (a few loops of phage in 10 c.c. of *K* medium). After successive transfers in *K* medium, typical staphylococci, which phaged readily, were obtained upon agar. This experiment has been repeated successfully several times. It would appear from these observations upon staphylococcus phage, that viable filterable staphylococci are, or may be, present in phage even though they do not grow in peptone-containing mediums. This is corroborative of what has been related above in so far as the experiment goes, namely, that in this particular phage filtrate there were viable staphylococci in the filterable state, and also that these filterable forms of the staphylococcus were neither exterminated by the phage principle, whatever it may be, nor did these tiny organisms multiply visible in the peptone constituents of the phage medium. It should be emphasized here that these experiments do not throw any light upon what phage actually is: they do, however, raise an important question in relation to the use of phage injections as a therapeutic measure.

A preparation of Besredka's antiviral (also staphylococcus) prepared by a well known manufacturer was also examined in the same manner as the phage, employing *K* medium. From it also a typical strain of *Staphylococcus aureus* was isolated. The same question, the clinical use of viable or potentially viable filterable forms of staphylococcus antiviral as in the use of phage would seem to be implied here. It is perhaps not necessary to state formally that the sample of antiviral examined in this connection did not contain germicides. Some preparations do; some are said to be heated prior to distribution; obviously either of these would be unsuited for cultivation experiments.

Considerable time has been spent in the discussion of phage and antiviral. The primary object has been to advance such evidence as these experiments afford, that leaky

filters *per se* are not necessarily primary factors in the apparent separation of bacteria into filterable and non-filterable forms. Nothing, however, is known of the proportion of filterable to non-filterable forms at the present time. There is also additional positive evidence of the existence of the two states. This will be mentioned later. The details of these phage experiments are related here, because they appear to illustrate an important factor in the study of filterable forms of bacteria, namely, that the filterable forms of at least certain bacteria do not grow well by themselves, either in presence of peptone or in absence of protein. (The terms peptone and protein are used here symbolically to indicate respectively, protein that has undergone at least some digestion by enzyme action, and protein that is as nearly unaltered as can be obtained by the procedure for making *K* medium).³ Typhoid bacilli, inoculated into this *K* medium grow readily. When viewed under the microscope after 24 to 48 hours' growth, they may be seen to exist in several forms. Some are unchanged, characteristic rod-shaped organisms. Some bacilli, viewed by dark-field illumination exhibit two to several glistening granules, enclosed in a hazy replica of the original rod. Many granules are also discernible, some arranged in short chains, some in irregular clusters. Many of these are difficult to differentiate from the granules inherent in *K* medium. If such a culture in *K* medium, containing rods, granular rods, and granules, is inoculated into peptone broth, excellent growth of typical agglutinable, typhoid bacilli will occur within 24 hours of incubation. It is surmised that this growth originates in the bacilli, not the granules. If, however, the *K* medium culture is filtered through a tight Berkefeld filter, a small amount of the filtrate, introduced into *K* medium, will almost always grow, whereas the inoculum of filtrate into peptone medium will rarely, if ever, grow. By this procedure, both the bacilli and the granular rods are kept back. Typical typhoid bacilli may be had from the transfer of the Berkefeld filtrate to *K* medium, upon agar plates. As a rule, none may be had from the transfer from the Berkefeld filtrate directly into peptone medium. It appears from this that the filterable forms of the bacteria herein described may exist, but do not develop visi-

bly, in peptone broth. On the other hand, they may not only exist, but may be made to grow in *K* medium. From *K* medium, after proper incubation, the visible agglutinable forms may usually be recovered after plating upon agar.

The laboratory details, however, are of much less interest to the clinician than the results which may flow from these technical procedures. Following the isolation of filterable forms of cocci from the cases mentioned, it was reasonable to attempt to cultivate organisms from several kinds of clinical diseases, which are usually refractory to bacterial investigation. Blood cultures were attempted from cases of rheumatic fever, arthritis, endocarditis, and their variants. In each instance, cultures were taken while the patient had fever, it being assumed that this would be the most favorable time for examination. Organisms were obtained from a reasonable percentage, but by no means all, of the bloods studied. A series of 18 apparently normal bloods remained sterile. These were regarded as controls on the method and on the technique. Three patients having acute colds were also examined. Organisms were isolated from two of these. One case of measles, 30 hours before the appearance of the rash, yielded a positive blood culture. The organism, to be described later, was very pleomorphic during the period when it was first plated upon agar from *K* medium. Later, when acclimatization was presumably complete, the microbe became homogeneous in its staining and cultural properties. It should be emphasized here that the principal difficulty in cultivation arose at the time when the growth in *K* medium (usually invisible and unstainable with ordinary methods) was inoculated upon the surface of nutrient meat infusion agar plates. Not infrequently, several days elapsed before tiny, water-clear dew-drop colonies appeared. These became more luxuriant either upon longer incubation (30° C.) or upon re-transfer. It is quite apparent that one of the many problems associated with this question of filterable-non-filterable microbic states is to find a more certain and rapid procedure for inducing the non-filterable condition from the filterable condition. It must be emphasized here that the mere cultivation of organisms from the blood stream in *K* medium does not

prove they originally existed in the filterable state, although the analogy to the influenza cultures mentioned above is suggestive.

As the matter now stands, it would appear that at least some bacteria may exist in several stages, passing from one to the other in response to alternations in nutritive environment. First there may be a filterable state, which appears to be fairly stable, in protein medium; second, a transitional state from filterable, which may be rather unstable, and finally, a non-filterable, fully acclimatized state upon peptone mediums, which is, or may be, quite stable.

Many questions arise at this point; are the several stages mutually antigenic, mutually chemically reactive, mutually infective and immunologically identical? Do these stages possess equal or nearly equal virulence? Are they equally or nearly equally identical in the lesions they may cause, and the paths through which they pass from person to person, and from environment to underlying tissue? Are cultures isolated from the blood the same potentially as those obtainable from the mucosae of the respiratory or intestinal tracts, the atria from which they may escape and enter the body? Are bacteria found in the blood stream the same as those of a chronic joint infection or organ which may be diseased? These and many other problems of greatest importance to clinical medicine seem to be thrust sharply into the foreground by these observations.

However, the observations in so far as they go are rather in accord with known facts. Filterable viruses are not usually associated with the intestinal tract, where peptone is abundant; rather they are sought for in the respiratory tract, where peptone is absent, except in purulent lesions. This appears to fit into the experimental evidence that filterable forms are proteophilic, whereas the non-filterable forms are rather peptophilic. Undoubtedly more refined mediums for the cultivation of bacteria will be very illuminating here. It is also a well known fact that sections of tissue taken from non-purulent internal lesions (except leprosy) presumably caused by bacteria, are remarkably free from stainable organisms. From what has been stated, it might be assumed that organisms, if present, are in the filterable state, enmeshed as they presumably

are in the tissues. A rather suggestive surgical experience may be cited here. A patient had an acute appendicitis, with peritonitis. At operation, streptococci were said to have been isolated from the peritoneal exudate upon blood-agar plates. Operation was successful, and for several months all seemed well. Then indications of local trouble at the site of operation appeared. From the peritoneal fluid, which was clear, growth was obtained in *K* medium, but no organisms could be detected by stain or by dark-field illumination. Growth in enriched peptone medium was not had. Eventually streptococci were recovered upon proteose agar. This is, of course, but a single case, and not much can be said about its significance beyond reciting the fact for what it is worth, in light of what has been said before.

In conclusion, a few suggestions, drawn from experience, may not be amiss, however disillusioning they may appear to be. In the first place, an ever present danger of unrecognized contaminations, which may creep in from many quarters, must constantly be borne in mind. If bacteria do indeed exist in a filterable state, the working environment takes on a new and sinister aspect, which the laboratory worker must learn to cope with. Also, the mere isolation of bacteria from the blood of patients in protein mediums, even though they may not be had even under otherwise parallel conditions in the more highly enriched peptone mediums, does not necessarily imply an etiological relationship. While the evidence thus far adduced seems to imply that normal persons do not ordinarily harbor microbes in the blood stream, the possibility of an occasional successful isolation must be recognized and, however carefully work of this sort may be done, there is a multitude of new factors to be considered and evaluated, a multitude of pitfalls to be avoided, and a necessity for a stern repression of undue optimism or pessimism. All new procedures must be tested carefully, thoroughly and thoughtfully before they may be rejected or accepted, and the one under discussion is no exception to this age-old rule. If, however, through it light can be thrown upon the etiology and the biology of influenza, common cold, arthritis, and rheumatism alone, unless the experience of the past is illusory, medical

science should again score in its conflict with disease.

Bibliography

1. For an excellent and very complete summary of the experimental evidence, see Kleiberger, *Erg. d. Hyg., Bakt., Immunitätsforsch. u. Exp. Therapie*, Berlin, 1930, 11, 499-555.
2. James A. Patten Lecture, *Northwestern University Bulletin*, Vol. xxxii, No. 5, Sept. 28, 1931; *Science*, Aug. 7, 1931, Vol. 74, No. 1910, pp. 129-139.
3. KENDALL: Mediums for the Cultivation of Bacteria in the Filterable State, *Northwestern University Bulletin*, Vol. xxxii, No. 8, 1931.

BITS FROM EDINBURGH HARVEIAN ORATION, 1931

(D. E. Dickson, Lockgelly, Fife, in *Edinburgh Med. J.*, Sept.)

If I plunge rashly into deep waters, it is not because I have confidence in my powers of swimming, but to try to show that the water is really deep.

If all the CO₂ of the blood were in the free form as H₂CO₃, the blood would be a thousand times more acid than is compatible with life. On the other hand, if all the CO₂ were in the form of carbonates, the blood would be hundreds of times too alkaline for life to be possible. The maintenance of the reaction necessary for life requires a definite and constant balance between the CO₂ as H₂CO₃ and as bicarbonate, and it is by means of its mechanism for maintaining such a balance that the organism is able to transport in the blood the great amounts of CO₂ to the lungs for excretion, and to do so with a barely measurable change in the blood hydrogen-ion concentration. This mechanism is provided by the buffer salts of the blood.

In all high fevers respiration is quickened, and the CO₂ in the blood is therefore diminished; and, as it has been shown that, for some unknown reason, the blood gives up its oxygen to the tissues most reluctantly in the absence of CO₂, the effect is that oxidative processes in the tissues are hindered and the defensive powers of the body thereby reduced. CO₂ is also known to stimulate the production of leucocytosis, and any lessening of the CO₂ thus again has the effect of lowering the bactericidal power of the blood. But the CO₂ present in the blood has a still more important function, that of maintaining the activity of the vasomotor centre, and therefore of the arterial blood pressure, so that in fevers, with diminution of CO₂, the vasomotor center is liable to lose its tone and the blood pressure to fall.

These are the arguments for reducing the temperature, and thereby conserving the amount of CO₂ in the blood, and cognate arguments are in favour of cooling by sponging rather than by the use of antipyretic drugs.

The administration of CO₂ as a therapeutic measure in many conditions seems therefore to have many points in its favour: and I came across a cutting

from a copy of *The Student* of over 30 years ago which has a bearing on this.

It reads thus: "How is the student to interpret Professor T. R. Fraser? One week he will convert his believing disciples to the fact that alcohol is the best stimulus for the circulation, respiration and cerebral function. But next week it is another story. In eloquent terms he advances the view that mineral waters containing CO₂ are excellent stimuli of these same functions.

What are the men to do? They want to do the right thing: the more knowing ones are mixing them: and the result in many cases has been described as most satisfactory!"

It is held by some authorities that clinical research into the earliest manifestations of the disease tends to become increasingly dependent on laboratory methods, and therefore on the provision of more hospital facilities, because efficient home treatment can not in such circumstances be available. However true this may be in the case of established disease, to my mind it is very doubtful so far as the beginnings of disease are concerned. It is far too materialistic. The first departure from a physiological norm is probably not detectable by any laboratory methods; it is much more likely to be detected by some alteration in sensation, disease, that is, in subjective rather than objective phenomena. And it is by the detection and interpretation of these that advance in this direction is likely; and it is by the education of the family doctor along these lines, aided certainly, and guided by specialists and laboratory workers, that we must progress. The organic lesion with which we are all familiar in the hospital ward and the post-mortem room follows a disturbance of function, and we ought to attack the disease in this initial functional period, and thereby open up a much more fertile field of therapeutic activity. It would be easy to show that etiology and pathology are still too often but uncertain guides in therapeutics. For example, bacteriology has revealed the cause of pneumonia; chemistry and histology have explained its pathological physiology; but in what degree have they benefited therapeutics, since we still remain in a state of expectation, armed with the feeble weapons of symptomatic treatment, unable surely to discriminate between the defensive symptoms which require support and the attacking symptoms which must be conquered.

Fever.—An elevation of the body-temperature above the normal.

Temperature.—The degree of intensity of heat of a body.—GOULD.

Absolutely zero is taken to be 273° below zero Centigrade (about 460° below zero F.) Anything above this is "temperature."

Strabismus in Children*

JAMES WATSON WHITE, M.D., New York

The normal function of vision is complex. Each eye should have the standard vision of 20/20 without glasses or corrected to this vision with glasses. Early in life the vision in normal eyes often seems to be somewhat less than standard. This may however be due to a lack of observation and judgment on the part of the individual. At the age of 4 or 5 years, the function should be pretty well developed. If the vision is not normal at this time, it should be corrected by the use of glasses or by training as early as possible, since the older the child the less probability there is of acquiring normal sight.

One theory of strabismus is that the macular area is improperly formed causing a central scotoma, thus reducing the vision permanently. This in my experience is true in only a small percentage of cases, as many cases so considered do have an improvement in vision, and the earlier the training is instituted, the greater the number of successful cases.

A second mechanism of the function of vision is the proper fusing of objects or binocular single vision with depth perception. This is the high point to be had in the use of the eyes. A simple experiment will explain the advantages of stereoscopic vision. Shut first one eye, then the other. Things appear as a flat picture and their position in space is judged only by a knowledge of the objects, their relative size and a knowledge of the relative position with other objects, by a paralactic motion got by moving the head or eye, by atmospheric conditions and several other factors. A one-eyed person by these aids may learn a substitute for fusion and often so cleverly that, for practical purposes, he is not greatly inconvenienced. He may be able to play tennis and baseball where these decisions must be made quickly. A recent example of this substitution, is the one-eyed aviator who flew around the world.

A person with depth perception has a somewhat dissimilar picture in each eye. The right eye seeing more of the right side of an object, and the left eye more of the left side. When these two pictures are fused in the visual

centres, we have the proper relative position of the objects in space. In strabismus this function seems to be lost quite early in life, and, if not developed before the age of 8 or 10, the chances are against it being acquired. Hence the earlier the training is instituted the more chance there is of success. Another theory of the beginning of a squint is that there is a lack in the fusion faculty.

A third and very important factor of vision is the uniform movement of the two eyes toward the objects to be fixed. This requires the equal contraction of one set of muscles and an equal relaxation of the opposing muscles. To accomplish this, the six extrinsic muscles of each eye must be perfectly balanced or nearly enough so for practical purposes. These conjunctive movements control the changing of the vision in the various directions.

But added to this is still another function, that of convergence, which is brought about through a center innervating both internal rectus muscles simultaneously and causes the eyes to move toward each other. A similar mechanism innervates both external recti to swing the eyes apart. This is the function of divergence. These functions are known as disjunctive movements.

There are other functions which from our standpoint are less important and will not be considered.

With normal vision, normal movements and normal fusing of the images in the visual centre, we have a most complicated and delicate arrangement which may be interfered with in many ways.

All forms of strabismus are due to some interference with this mechanism.

The types of strabismus are:

a. convergent strabismus

b. divergent strabismus

c. vertical strabismus

d. a combination of any two or all three of these varieties.

The study of strabismus is simplified by remembering that the six muscles of each eye must be considered, also the convergence and

*Presented to the Ninth District (N. C.) Medical Society, meeting at Lexington, September 23rd, 1931.

divergence functions and that no diagnosis is more than a guess until these have all been examined. Time will not permit the methods of diagnosis.

The varieties of strabismus mentioned may each be due to a congenital malformation of a muscle in which connective tissue replaces muscle tissue. A less frequent condition is the absence of a muscle. A faulty insertion of a muscle is occasionally seen.

It is my belief, although proof is rarely possible, that in many instances the under-action of eye muscles is due to hemorrhages into the 3rd, 4th or 6th nerve nuclei or along their trunks. These are due to injuries received at birth by difficult labor, forceps delivery, etc. Meningitis and encephalitis are the more common of the many diseases which may cause a weakened muscle. When one muscle is paretic other muscles are apt to overact and the condition becomes more complicated. Congenitally over-acting muscles are rare but develop secondarily as stated elsewhere.

The type of strabismus most common to us all is the convergent strabismus of the hyperopic child. This may develop within a few months after birth or may be delayed some years. Most of these cases are first seen between the age of 1 and 4. A history of heredity is common and makes an interesting observation. Some observers claim that the hypermetropia which produces a strain in accommodation is the exciting cause, while others claim the squint to be due to a congenital defect at the macula, or to a defect in the fusion faculty. There is so much evidence for each theory that they are all probably right at times. My experience has shown a greater number believed to be due to hypermetropia and the accompanying strain to the accommodation.

A history commonly given is that an illness or a fall has caused the squint. This is usually not so, but it may often be the last straw.

Convergent strabismus is not infrequently seen in myopic children.

A form often overlooked is the non-accommodative convergent strabismus. This is seen in chorea, hysteria and nerve irritations such as a phimosis. In these cases there may be no refractive error.

Divergent strabismus usually begins from 2 to 7. It may be earlier or may be delayed. There is often a hereditary history. It may

occur in either the near- or far-sighted. Not infrequently the child is mentally below par, but many are mentally alert and the equal of any normal child. Birth injuries here seem to be an important factor. As this form usually appears somewhat later than a convergent strabismus, the vision is usually better and when below normal is more easily trained to normal. Binocular single vision, too, is more apt to be present and if not is more easily acquired.

Vertical strabismus is practically always due to a defect in one or more of the elevator or depressor muscles. These are usually due to congenital anomalies, birth injuries or early diseases as meningitis or encephalitis.

Vertical strabismus is often associated with a convergent or a divergent strabismus and is frequently the cause of the lateral deviations. A tilting of the head is often seen in a vertical squint and is often mistaken for other forms of wry-neck. The head tilt may and often does enable the child to fuse the images. However the head is often tilted in the same way when this is not accomplished and is then believed to relieve a sense of muscle imbalance. Many head tilts are entirely relieved by operation on the proper elevator or depressor muscle.

From a child's standpoint a squint is the source of humiliation and annoyance and at a much earlier age than we probably think. To play with children who call you cock-eyed or wall eye is not pleasant. The poet even has referred to him thus:

"While one eye watches the eagle's flight
The other keeps the trail in sight".

We are all familiar with the grey horse and other means of breaking the jinx of seeing a cross-eyed person. Most children resent this ridicule and keep off by themselves, become bookworms or develop a sullen disposition. Few have the pugnacious spirit of one of my boys who would give his glasses to someone for safe keeping and then go in and beat up his tormentors. Many dispositions have been ruined by these taunts. In examining a woman I casually spoke of her deviation as a squint. She became almost hysterical, due, I believe, to her early sufferings.

A friend congratulated me some years ago upon the successful operation on a small cousin, "and" he said, "You have changed one

of the most hateful kids to a well-behaved and likeable girl".

In a general meeting such as this, I shall not go into a detailed treatment, but I cannot emphasize too strongly the early correction of most of these cases.

The advice given too frequently is to "wait for the child to grow out of it". That "nothing can be done until the age of 10 to 15". My belief is that by 10 to 15 the damage to vision and disposition is almost irreparable and that correction at this age is for appearance only.

Each case of squint should be seen and properly classified as soon as it develops and then such advice given as that particular case requires.

The vision can be quite definitely judged very early by the accuracy with which the child handles toys or looks at any chosen test object. If vision is below normal, atropine $\frac{1}{2}$ to 1 per cent. may be used in the good eye once daily for a month and the result observed. I do not continue this treatment, but will leave off for 6 weeks and then repeat it if necessary. Used in this way, it may be continued as long as desired.

If the child is old enough, the good eye should be closed off by an eye patch and adhesive, and the vision trained under the observation of a parent or nurse. To be successful one must be in sympathy with the patient and guess the things he likes best. Toys to be pieced together, jig-saw puzzles, stringing of beads, (varying the size to suit the vision of the patient), kindergarten work, punch cards and cutting and coloring of pictures are a few of the things used. The chosen exercise should be done every day from $\frac{1}{2}$ to 1 hour, depending on the ability to hold the attention. It is not fair to cover an eye and turn the child loose to play with his fellows. He is either competing at a disadvantage or is peeking around the edge of the cover. What real boy would lose a bag of new marbles because some doctor told him to keep his good eye covered? I am strongly opposed to the covering of the good eye during meals as it does little good and leads to an unpleasant meal for the whole family. The covers on the market to be adjusted to the glasses and the usual eye shields are worthless in most cases, as it is no trick to peek around them. Such training as outlined requires much patience on the part of all concerned, but, when persisted in, the results

are often so satisfactory that they are well worth the effort. May I emphasize again that the earlier such training is instituted the more probable the success.

Many cases are cured by glasses alone, while some are only reduced in degree. Some are even made worse by glasses. If the deviation is not progressively reduced an early operation should be considered. The chief reason for this is the effect on the child and the greater probability of recovering or developing binocular single vision and depth perception. The stereoscope and amblyoscope are useful instruments for training fusion and should be used in the home under proper directions.

In operating for a convergent strabismus of a hyperopic type, an under-correction is advisable, the amount depending on the age of the patient and the amount of hypermetropia.

A common mistake is that of putting on glasses with the advice to use them constantly and return in a year. Often the deviation is but little changed by the glasses and a whole year is lost which should be used in training the vision of a poorer eye or in training fusion.

As a working rule, any treatment that does not give the required results should either be stopped or supplemented. There is no short cut to success and often long and persistent efforts are required.

During treatment the general practitioner may do much to aid. While treating the child for other conditions or when visiting other members of the family, he can inquire as to how well the training is being carried on and determine something of the success or failure of such treatment.

I place the benefits of a correction either operative or non-operative in the following order:—

- I. The effects on the nervous system and disposition.
- II. Improved vision of a poor eye.
- III. Appearance.
- IV. Binocular single vision.

In conclusion may I emphasize these points:

1. Know the type of squint with which you are dealing.
2. Institute the treatment most probable of success.
4. Supplement or change any treatment, if desired results are not obtained.

5. Aim for good vision in each eye separately.
6. Try to maintain or develop binocular single vision.
7. Try to correct a squint before the child is oversensitive regarding the eyes and the taunts of his playmates. If this can be done before school age so much the better.

—15 Park Avenue

GLASSES WORN IN CONTACT WITH THE EYEBALL

(A. Rugg-Gunn in *The British Jl. of Ophthalmology*, Oct., 1931)

The possibility of correcting anomalies of refraction by means of lenses in actual contact with the eye seems to have occurred to several investigators during the past century or so. The younger Herschel, astronomer and physicist, attempted to make contact glasses about 1827. Apparently he adopted a method of casting from a gelatine negative and used the glass positive moulded therein along with a gelatine meniscus in contact with the cornea. In 1887 Dr. A. E. Fick advocated contact glasses for keratoconus. His experiments were mostly concerned with blown glasses, but it is on record that he approached Abbe with a view to having examples ground. Whether Abbe attempted to grind any is unknown but he had specimens blown for him in the Forest of Thuringia. About the same date Kalts in Paris experimented with contact glasses but did not publish. Later, a few practical opticians actually ground some specimens—Strubin in Basle and Himmler in Berlin. In 1892 Sulzer had contact glasses ground for him by opticians in Paris and Geneva. Muller, of Wiesbaden, was associated with the experiments of Fick in 1887 and has produced blown glasses ever since. The firm of Carl Zeiss, of Jena, first produced ground contact glasses for experimental purposes in 1911 and for keratoconus in 1918.

The technique of grinding out of a single piece of glass a small, fragile bowl, complicated in form, mathematically exact in curvature, and polished so finely as to be tolerated by the eye, is obviously one of great precision and delicacy. The firm of Zeiss now manufacture contact glasses and trial sets designed to cover practically the whole range of ametropia. The Zeiss ground contact glass is a thin, transparent hollowed bowl which fits on to the anterior part of the eyeball beneath the lids, in contact with the sclera but separated from the cornea by a fluid meniscus. The total weight of a contact glass is only .5 gm. (grs. 7). It is thus easily carried by the eyeball in its movements around the centre of rotation. The dominant factor in the combination is the fluid meniscus lying between the cornea and the inner surface of the contact glass.

Muller has manufactured blown contact glasses continuously since 1887. His glasses were first designed for protective purposes, to prevent injury to the cornea in cases of inadequate closure of the lids,

absence of eyelids, dystichiasis or entropion; but it soon became apparent that they were also able to correct defects of corneal refraction. The type of refractive defect for which blown glasses have been and are being used includes chiefly conditions such as leucomata, the result either of injury or disease and conical cornea. They can be used equally well, however, for myopia or aphakia.

The act of successful blowing entails an exquisite co-ordination of hands, lips and eye. There is no fluid meniscus between the cornea and a blown contact glass, but there must be no air bubble between the two. The patient should experience no sensation of pressure either on the cornea or conjunctiva. At first the glass should be worn only for a few hours daily and the period gradually increased. I am not sure that the most suitable solution for the fluid meniscus has yet been determined. The refractive power is a comparatively simple determination. Very great care, however, must be taken to ensure the accuracy of the scleral fit.

It is certain that contact glasses have great possibilities. At present contact glasses are a novelty. This fact attracts some and repels others. There is the fear of discomfort and the fear that it is not safe. A contact glass, owing to its position in the orbit, is well protected from injury, much better than a spectacle lens.

I feel sure that the gain in these three directions—monocular perspective, binocular fusion, and increased field of vision—should ensure for these glasses an extended use in certain occupations and pursuits, for example, speed-racing on land, sea and air, and many others not quite so sensational. Contact glasses so used, being maintained at the body temperature, have the additional advantage that neither fog nor rain can condense on them. Further they protect the cornea from wind and the eye from glare. The protection from the latter is enhanced by the tinted varieties. I feel sure also that they will enter largely into sport. Even when they are tolerated only for a few hours they should prove of value in tennis, shooting, swimming, etc. Their extreme inconspicuousness, amounting almost to invisibility, should prove an attraction in other activities. The actress, for example, may use them on the stage and the hostess at her receptions. Contact glasses especially when tinted, are of great value in relieving certain symptoms of albinism, such as defective vision, photophobia and even nystagmus. They may be used with advantage, for similar reasons, in cases of phlyctenular conjunctivitis associated with blepharospasm and photophobia in children. They are indicated in many varieties of keratitis and in plastic operations of the cornea they are valuable for maintaining the grafts in position. When used for the treatment of corneal ulcers continuous application of an antiseptic ointment can be secured by smearing the preparation on the inner surface of the glass. In no class is the value of contact glasses more manifest than in the group of visual defects due to irregular corneal astigmatism.

The Early Diagnosis of Carcinoma of the Stomach*

ROY C. MITCHELL, B.S., M.D., F.A.C.P., Mount Airy, N. C.

IMPORTANCE OF THE PROBLEM

Carcinoma of the stomach constitutes 34 to 44 per cent. of all carcinomas of the entire body. It affects males more often than females. Seventy-two per cent. occur between the ages of 40 and 80 years. Seventy per cent. occur in the ulcer-bearing area near the pylorus. It is characterized clinically by a variety of symptoms; and its successful treatment depends upon a very early diagnosis.

DIAGNOSIS A MEDICAL PROBLEM

While the treatment of carcinoma of the stomach is surgical, its diagnosis is medical. Since the successful surgical treatment depends upon the early medical diagnosis the problem appears at present to be chiefly a medical one. Only 50 per cent. are operable when they are first recognized and only 25 per cent. of these are alive five years after operation. This means that the mortality from cancer of the stomach is 87½ per cent., with only 12½ per cent. rescued by the medical profession. Our present clinical picture of the disease is a picture of it only at an advanced stage of development. We do not recognize it even in ourselves at any earlier stage than we do in our patients. We must have a new picture of the disease—one at an earlier stage, that will permit a greater percentage of cures.

PRESENT PICTURE THAT OF HOPELESSLY ADVANCED STAGE

The conventional picture furnished by the standard textbooks and demonstrated to us in medical schools is that of a male 40 years or past complaining of loss of appetite, epigastric pain, vomiting and constipation; with a gastric analysis showing a decrease in hydrochloric acid and an increase in lactic acid with Oppler-Boas bacilli, and possibly "coffee ground" blood; with stool examinations persistently showing occult blood; a blood examination showing severe anemia; and a physical examination showing loss of weight, cachexia and possibly an abdominal tumor. With this as a working picture of carcinoma

of the stomach the percentage of cures must remain small.

CASES WITH SHORT HISTORIES

This paper is prompted by some recent experiences with cases giving short histories with mild symptoms but which, on x-ray examination, showed advanced pathology. (Presents radiograms of three of them.)

Case Reports

CASE 1.—J. M. M., white, male, age 69, March 4th—complained of weakness and uneasiness in the stomach with loss of appetite for 2½ weeks. Constipated. Tender in epigastrium. No vomiting. Has feared cancer of the stomach for years. Was examined at Johns Hopkins 7 years and 4 years ago, respectively, for gastric lesion but examination was negative. Has lost 5 pounds in 3 weeks.

Hb 85% (Dare)

Total acidity 70

Free HCl 53

Occult blood in gastric contents—negative

Occult blood in stool—negative

Radiogram shows smooth filling defect involving middle third of stomach on both curvatures. Fluoroscope shows absence of peristalsis over this area. Stomach and duodenum movable.

Operated on by Dr. M. S. Martin June 27th. Findings: Inoperable carcinoma involving entire stomach.

CASE 2.—I. W. R., white, male, age 70, February 20th. No symptoms until one week ago tonight when after an unusually hearty supper he vomited after going to bed and since then has been constipated and appetite has not been up to par. No tenderness in abdomen. No pain. No palpable tumor. No loss of weight. Always well. No past digestive disturbances.

Hb 90% (Dare)

Total gastric acidity 59

Free HCl 43

Occult blood in gastric contents—negative

Occult blood in stool—negative

Radiogram shows slightly irregular filling defect involving pyloric fourth of stomach on both curvatures. Fluoroscope shows absence of peristalsis over this area with rapid filling of the duodenum. Stomach and duodenum movable.

This case was re-x-rayed by a medical relative who confirmed the diagnosis. But he still, after 8 months, is holding his own and refuses operation.

*Presented to the Eighth District (N. C.) Medical Society, meeting at Reidsville, October 2nd, 1931.

CASE 3.—J. W. J., white, male, age 66, July 20th. For 20 years has had indigestion, with pain coming on 1 to 3 hours after eating, relieved by soda. Has had 3 attacks of vomiting in last 2 months and has lost 18 pounds during last 4 months. Slight tenderness in epigastrium. No palpable tumor. Was sent in by family physician to be studied for peptic ulcer.

Hb 75% (Dare)

Total gastric acidity 27

Free HCl 5

Occult blood in gastric contents—positive

Occult blood in feces—positive

Radiogram shows irregular filling defect involving pyloric three-fifths of stomach on both curvatures. Fluoroscope shows absence of peristalsis over this area. Stomach and duodenum movable.

Operated on August 14th by Dr. M. S. Martin. Findings: Inoperable carcinoma of the pyloric and mid stomach. Duodenum normal.

This man likely had a gastric ulcer for 20 years with degeneration into a carcinoma that began to give its symptoms two months before examination.

DISCUSSION

The first two patients drifted in, with what they considered minor complaints, for a little something to straighten them out. They had no thought of anything serious and my only reason for making laboratory studies of them was a working rule of eliminating gastric carcinoma in cases with short histories of gastric disturbances in patients past 40 years of age. Two had had symptoms less than 3 weeks. Their gastric secretions were within normal limits. The third with a long history of intermittent dyspepsia had had symptoms continuously for only 2 months. But all showed advanced cancer of the stomach. It is rare to find a case of cancer of the stomach with symptoms of any degrees that does not show definite x-ray evidence of the tumor although laboratory evidence of decreased gastric secretion is often lacking.

What, then, shall our picture of early carcinoma of the stomach be? We do not find it in typical histories nor in physical and laboratory examinations. The most conservative examiners are coming to rely on the x-ray for confirmatory evidence in the form of delayed emptying time and filling defects. But these signs, too, are late x-ray signs, although they are better than late physical and laboratory signs. What are the earliest x-ray signs of tumor of the stomach?

the x-ray examination of the stomach is dependent upon 3 things: 1, emptying time; 2, deformities in the outline of the stomach wall; 3, changes in peristaltic activity. The first two features are already in general use. Certain roentgenologists are working out techniques based on the third—changes in peristaltic activity. Among them is Dr. Albert Kohler (*Roentgenology*, p. 458), who says, "If the peristalsis is always absent at one point, and if the rugae or folds are wanting, this is . . . often a most important early sign of commencing tumor at the affected spot especially if the lumen of the stomach at this spot remains unaltered in form and size during the course of peristalsis. Appearances like finger-marks are due to offshoots of the tumor into normal tissue." P. 445: "Naturally tumors in their earliest stages show a minimum of direct symptoms, . . . therefore one adheres almost exclusively to direct symptoms; if the history, the clinical symptoms, and the direct roentgen evidence (delayed period of emptying, remains of meal after 6 hours, etc.) all agree, then anyone with sufficient experience can diagnose a tumor with a measure of certainty." Doubtless if the tumor delayed the period of emptying, it was already inoperable. There is no doubt that with the betterment of technique—a beginning is already made—even the smallest tumors can be recognized in a number of cases, not perhaps on screening, but by taking of plates. With first-rate technique the smallest filling-defects at or immediately in front of the pylorus can be recognized. These defects have usually a ring-shaped structure, which differentiates them from the ordinary chronic ulcer. The reason for the origin of such ring-shaped defects is not quite clear. It is quite possible that the spread of cancer cells in the deeper layers of the stomach wall influences its contractility so that the defect is apparently enlarged and produces the ring-shaped appearance. The defect must be seen on several plates, and if possible 24 hours afterwards, and also in profile. Also other authors maintain that small changes in the roentgen shadow must show the same image upon many plates, unless one is to be deceived by an accidental finding."

IMPROVEMENT IN TECHNIQUE OF X-RAY EXAMINATION

The recognition of pathological changes in

A SUGGESTION

It is true that when we go to removing all areas in the stomach over which peristaltic

waves do not pass we will remove many benign lesions. But, since 70 to 90 per cent. of cancers of the stomach arise in the ulcer-bearing area near the pylorus in the area of greatest irritation, will we not be removing pre-cancerous or early cancerous tissue? There is a time in the history of every cancer when it is, clinically, not a cancer. Exploratory laparotomies in even advanced cases have a mortality that is negligible. Radical operations have a mortality of 10 to 20 per cent.; while unoperated cancer of the stomach has a mortality of 100 per cent. In view of the large number of normal appendices and gall-bladders that are being sacrificed in the treatment of gastric neuroses, it does not seem out of keeping with sound medicine to advise the removal from the abdomen of organic disease, potentially cancerous, also.

WHEN

When practitioners universally become suspicious of all gastric disturbances in patients past the age of 40; when they have become educated, along with the laity, to thorough periodic health examinations; and when the patient's prosperity or a communistic millennium meets the expense of an annual or semi-annual gastro-enterological examination, including x-ray, of all patients past the age of 35, the number of late operations and the number of exploratory laparotomies for cancer of the stomach will decrease, and the number of successful radical operations will increase. We must continue to utilize all the help that can be obtained from histories and physical and laboratory examinations; but it seems that the next step in the direction of earlier diagnosis of carcinoma of the stomach will be improvement in the x-ray examination of this organ.

CONCLUSIONS

1. The conventional picture of carcinoma of the stomach is inadequate for an early diagnosis.
2. Successful treatment is dependent upon an early diagnosis.
3. The earliest diagnosis can be made by x-ray examinations.
4. The earliest x-ray sign is an area of the stomach in which peristalsis is persistently absent.

THE MODERN TREATMENT OF SYPHILIS

(L. W. Harrison, London, Eng., in *Jour. of Chemotherapy*, Oct.)

Bismuth 0.23 Gm. per week for 10 weeks; concurrently, nearsphenamine, 0.45, 0.45, 0.6 Gm on the 1st, 8th, and 15th day respectively; 0.75, 0.9 on the 43rd and 50th days; 0.9 on the 78th, 85th, 113th and 120th days. In 89 sero-positive primary cases thus treated, the serum reactions were positive at the end of the treatment in 4, doubtful in 3 and negative in 82. In 47 early secondary cases, the reactions were positive in 2, doubtful in 2 and negative in 43.

The incidence of jaundice was greater with the new course, until the plan of dissolving the arsenical in 20 c.c. of 40 per cent. glucose (neutral) was adopted.

The minimum treatment in sero-negative primary syphilis is *three* of the new courses, and for early sero-positive cases it is *three courses beyond the first that ends with negative sero-reactions*, allowing intervals of 6 weeks between the courses.

In early cases, where arsphenamine treatment can not be exploited to the full, a soluble bismuth preparation is preferable because of the rapidity of its absorption, but such a drug should be administered at least twice a week.

THE TREATMENT OF EARLY OR ACUTE SYPHILIS

(V. C. Garner and J. H. Stokes, Philadelphia, in *Med. Jour. & Record*, Oct. 21st)

The effective treatment of early syphilis requires the prolonged simultaneous administration of an arsphenamine and a heavy metal given in conservative dosage without rest intervals. The practitioner has not yet learned how to treat smoothly. He is not generally familiar with the therapeutic shock or Herxheimer reaction, he aerates and thereby toxifies his nearsphenamine in its preparation and insists upon its speedy administration with the attendant train of complications. When one adds to this the high cost of medical care and an imperfect, reaction-producing intramuscular technic, it is small wonder that the partially treated patient frequently slips from under the yoke of medical oppression and becomes the relapser and the disseminator of new infections. The treatment of syphilis is only in part a matter of the knowledge of drug and dose and interval. It, in very large measure, demands a greater interest of the practitioner in the precisions and niceties of technic if we are to control and eventually annihilate syphilis.

TUBERCULOSIS MENINGITIS, RECOVERIES

(D. W. Kramer and B. B. Stein, Phila., in *Arch. Internal Med.*, Oct.)

The traditional and fixed idea that a patient with tuberculous meningitis must die should be reconsidered. Seventy-three cases of presumably authentic cures were collected.

Carcinoma of the Cervix Uteri*

A Clinical Discussion

MALCOM THOMPSON, M.D., F.A.C.S., Louisville, Ky.

Carcinoma of the cervix is one of the most frequent serious diseases with which woman-kind is afflicted. Without treatment, it is uniformly fatal and usually so within a short time. Cases of long duration such as occur in carcinoma of the breast are unknown. It is distinctly a disease of middle life and occurs more frequently in multipara than in nullipara. It must not be forgotten, however, that 3 per cent. of cases occur in women who have never had children.

DIAGNOSIS.—The diagnosis of cancer of the cervix is relatively easy. The early symptoms are leucorrhea and watery discharge soon followed by bleeding. Any one of these symptoms is sufficient cause for an immediate complete examination of the cervix. The cause of such symptoms should be determined and should be treated until cure is effected. When in doubt a biopsy should be done. If properly performed, a biopsy does not increase the risk and greatly adds to our understanding of a doubtful case. In the endotherm knife we have an easy method of obtaining a specimen without spreading the pathologic process.

In making an examination, one must palpate the pelvic viscera and must carefully inspect the cervix with the aid of a good light. Cases of any duration will reveal their true nature at once. There will be seen an irregular, fungating, or ulcerating mass which bleeds easily. Syphilis and tuberculosis are the only conditions likely to be mistaken for an advanced case, and the exact diagnosis can be determined with a little study. In an early case, there may be nothing visible at first and it may be necessary to split the cervix: this should certainly be done if any doubt exists. The interior of the cervix may then be inspected and any suspicious areas removed with the endotherm knife and a section for microscopic examination made. The point to be emphasized is that no one with any one of the symptoms of cancer should be dismissed from frequent examina-

tion and study until it is positively known that cancer is not present.

TREATMENT.—Once the diagnosis of cancer is made, what is the proper treatment to pursue and what results may be expected? These are exceedingly difficult questions to answer and, concerning them, there is much diversity of opinion.

There is no standardized treatment for carcinoma of the cervix. This, in itself, means that the treatment is unsatisfactory and that the leaders of our profession can not agree upon which is the best method. The methods for treating cervical carcinoma are the abdominal pan-hysterectomy of Clark and Wertheim, vaginal hysterectomy, the application of radium salt or radium emanation, the application of roentgen rays, destruction by electro-thermic means and destruction by the actual cautery.

In the most experienced hands, the abdominal pan-hysterectomy of Wertheim carries a mortality of 17 per cent. The best results reported by this method are those of Victor Bonney of England who reports an absolute 5-year cure of 38 per cent. This includes all of his early and late cases, and is a wonderful showing. The primary mortality of 17 per cent., however, is sufficient to frighten most patients as long as there are other means at our command. I believe that this mortality is so great as to warrant discarding the operation entirely.

Vaginal hysterectomy is not commonly used in this country, but is an exceedingly safe and very efficient method of treating the early cases. Professor Dr. Adler of Vienna is a great exponent of this operation. He reports absolute cures of 32 per cent with a mortality of 6.1 per cent. If surgery is to be used by any other than an expert with large experience, I should certainly advise the vaginal operation rather than the abdominal pan-hysterectomy.

Roentgen irradiation, cauterization and electro-thermic coagulation are seldom used

*Presented to the Harlan County (Ky.) Medical Society, meeting at Harlan, March 28th, 1931.

alone but are used in conjunction with radium.

In studying the use of radium, one is amazed by the great number of various methods of using it. The filtration differs with nearly every radiologist. The length of application differs and the number of applications. A great physician has said that with a nickel's worth of radium, one may do a million-dollars' worth of damage, and this is certainly true in treating cancer of the cervix. Many men today are using radium in this condition when they do not understand its use and, what is most regrettable, they are using it ineffectually while they and their patients are being deluded with a false sense of security. Some use radium alone simply by inserting it into the uterus and by applying it directly into the growth. Others first cauterize the mass or destroy it by electro-coagulation before applying radium. Still others use roentgen irradiation in conjunction with the radium. A few use a combination of all three and I believe that this combination is the safest and most effective known method of treating cancer of the cervix.

To illustrate the folly of using radium alone, attention may be called to the figures of C. C. Norris. In the early cases treated by irradiation alone, there was a 5-year salvage of 28.5 per cent. In the early cases treated by cautery amputation followed by irradiation, there was a 5-year salvage of 83 per cent. Robert B. Greenough, in summarizing the findings of his committee, says "it would appear that better results were obtained in the combination of radium and cauterization than in the cases treated by radium alone."

The importance and necessity of using roentgen irradiation is shown by the fact that recurrences take place six to 10 years after treatment and these usually in the parametrial or lumbar lymph nodes. Healy states that "local recurrences in the cervix after the 5th year are unusual." Aside from the radical abdominal operation, there is no way of influencing the deep parametrial and lumbar nodes except by roentgen irradiation. (Block radium in large amounts may be used). In addition the best results that have been published have been by men who use roentgen irradiation with radium and cauterization or coagulation.

A good plan of treatment is as follows: The patient is admitted to a hospital and over a period of two weeks, or longer, roentgen treatments with a deep therapy machine are given anteriorly and posteriorly to the pelvis and over the spine of the 3rd lumbar vertebra. Please note that deep therapy is specified. While this is being done, the vagina is thoroughly cleansed each day and antiseptics applied to lessen the chance of infection and sepsis. The growth is then removed by cauterization or electro-coagulation and radium applied. The dosages of roentgen ray and radium used vary considerably and they will not be discussed here as time and space do not permit. When the radium is applied, a specimen is taken for microscopic confirmation of the clinical diagnosis. This is important as any statistics to be of value must include a positive microscopic diagnosis of each case. Two weeks later, the roentgen irradiation is repeated. Proper attention is directed during the entire treatment to the patient's nutrition and anemia and, if necessary, one or more transfusions of blood may be given.

Following the treatment just outlined, the patient should be examined locally once each month for 10 years. Every 3 months, in addition to the local examination, a urinalysis and a blood count should be done. This appears to be a rather exacting schedule, but it is only by such careful and frequent examinations and by close attention to every detail that we are going to make much progress in treating cancer, in our present state of knowledge. The possibility of hydrometra, pyometra, hydronephrosis, and pyonephrosis must not be overlooked in the post-irradiation follow-up.

PROGNOSIS.—What is the prognosis of cancer of the cervix and what are the factors which determine the prognosis? Many studies have been made to discover the influence of the cellular type upon the malignancy of the disease. George Van S. Smith of Boston says, "Although comparing the results of treatment with the cell types suggests that the order of malignancy from low to high is spindle cell squamous, adenocarcinoma, transitional cell and fat spindle cell squamous (this is in agreement with Martzloff and others), the differences are so slight that the division of these tumors on the basis of cell type ap-

pears to be of little aid either in prognosis or in deciding between radium and operation." Dr. Plaut of New York says, "We have today no reliable basis for a histological prognosis in cervical carcinoma."

The type of the cell, undoubtedly, has some influence, but it is so slight compared to other factors that it is not of any appreciable practical importance. The most important single factor in the prognosis is the length of time from the appearance of the first symptom until the patient is properly treated. This has been recognized by all students of the subject. Healy of New York divides his cases into *favorable*—to include the early and borderline, and *unfavorable*—which represents the advanced cases. In the favorable group, he had 44.5 per cent. of 5-year clinical cures. Bowing and Fricke divide their cases into operable, border line, inoperable and modified. Of a thousand and one patients who were treated, 75 per cent. of the operable group, 61.54 per cent. of the border-line group, 21.49 per cent. of the inoperable group, and 24.82 per cent. of the modified group had been cured for 5 years. Particular attention is called to the results in the modified group as this represents recurrent cases and those who had had previous treatment of one kind or another. It emphasizes the importance of the monthly follow-up previously outlined and gives us an idea as to what may be expected of it.

PROPHYLAXIS. — Unfortunately little is known concerning the cause of cancer of the cervix, just as very little is known concerning the cause of cancer elsewhere in the body. There appears to be a definite relationship between childbearing and cervical cancer. Only 3 per cent. of cancers of the cervix occur in women who have never had children, while the proportion of nulliparous women to multiparous women in the general population is much greater than 3 per cent. The lacerations, erosions, eversion and endocervices which result from childbirth are believed to be the predisposing causal factor. It is thought by most surgeons that correction of these conditions definitely tends to prevent the occurrence of carcinoma. The proper method of correction is by trachelectomy or by cauterization. Of the two methods, cauterization is to be preferred in most cases. Few, if any, exact studies have been made to determine just how successfully trachelectomy and cauterization pre-

vent the formation of cancer, Smith and his colleagues, in a study of 550 cases of cervical cancer at the Boston Free Hospital for Women, observed that not one of their cases "gave a history of cauterization of the cervix, and of the 1150 patients who had cauterization of the cervix, between 1914 and 1927, not one has been known to develop carcinoma." This is a most important observation and one that should quickly be confirmed and amplified or refuted, as the case may be, by other careful workers. Lillian K. P. Farrar of New York definitely believes that infections of the cervix lead to carcinoma and that recurrences take place 6 to 10 years after saving measure.

For the time being, our chief hope of lowering the mortality from this disease lies in our ability to properly educate the public. Women must be taught the initial symptoms, and the wonderful prospects for cure when intelligent diagnosis and proper treatment are undertaken as soon as the first symptom is discovered. They must also be taught the advisability of correcting cervical lacerations and infections as a prophylactic measure.

Bibliography

1. ADLER: Results in 1,000 Cases of Extended Vaginal Operation for Carcinoma of the Cervix. *Journal of Obstetrics and Gynecology of the British Empire*, 36:335.
2. BERKELY: The Results of the Radical Operation for Carcinoma of the Cervix Uteri. *International Conference on Cancer*, 1928.
3. BONNEY: The Comparison of Results in Uterine Cancer Obtained by Surgery and Radiation. *International Conference on Cancer*, 1928.
4. BOWING and FRICKE: Results Obtained in the Treatment of Carcinoma of the Cervix Uteri With Radium and Roentgen-Rays From 1915 to 1924 Inclusive. *Radiology*, 14:211.
5. FARRAR: The Reaction of the Tissues to Radium in Treatment of Cancer of the Cervix and the Importance of Lacerations in Producing Cancer in this Location. *Surgery, Gynecology and Obstetrics*, 43: 719.
6. GREENOUGH: Report of the Committee on the Treatment of Malignant Disease with Radium and X-ray of the American College of Surgeons. *Surgery, Gynecology and Obstetrics*, 49:247.
7. HEALY: Carcinoma of the Cervix. *Radiology*, 14:217.
8. HEALY: Classification and Radiation Treatment of Cancer of the Cervix Uteri. *International Conference on Cancer*, 1928.
9. MARTIN: Editorial: *Radiology*, 14:75.
10. NORRIS: Radium in the Treatment of Gynec-

cologic and Obstetric Conditions. *J. A. M. A.*, 90: 199.

11. PLAUT: The Relation of Prognosis to the Histological Findings in Carcinoma of the Cervix. *Surgery, Gynecology and Obstetrics*, 43:450.

12. SCHMITZ and HUEPER: Histological Structure, Clinical Grouping and Prognosis of Cancer of the Uterine Cervix and the Breast. *Radiology*, 14:223.

13. SMITH, SMITHWICK and ROGERS: A Report of Cases of Carcinoma of the Cervix Treated Between 1875 and 1927 at the Boston Free Hospital for Women. *American Journal of Obstetrics and Gynecology*, 15:637.

14. STEVENS: The Management of Carcinomata of the Uterine Cervix. *Radiology*, 12:423.

THE PRACTITIONER'S VIEW OF MEDICAL ECONOMICS (F. I. Krauss, Chatham, N. J., in *Jl. Med. Soc. N. J.*, Oct., 1931)

Medical costs are being investigated by amateur sociologists from the automobile manufacturer to the chain store groceryman. No automobile manufacturer suggests that people buy fewer or cheaper automobiles, and no chain store owner suggests that poor people eat fewer luxurious foods, wear plainer clothing, and live on the humbler fare of their forefathers. These are all in the line of civilization and progress, and are legitimate expenses. They argue that x-rays, blood chemistry, immunization against disease, are also in the line of progress, *but* that they should be given away or else paid for by some panacea of a system whereby everybody pays for the other fellow.

All these lay articles assume: He may have an automobile or a radio on the installment plan; that is a legitimate expense. Watch the construction of any building and see the laborers arriving in much better automobiles than the average doctor drives. Go into their homes and see better radios than we possess. See fruits from all over the country on their tables. Who wears cotton stockings and underwear? These are hard facts. Yet, they mean nothing to the economist who would socialize a legitimate profession. *They* do not give free groceries, or free coal, or even a discount to those who say they can not afford to pay, and yet those commodities are just as important to sustain life as is medical care. If one asks for charity in any other line except medicine, the whole social machinery is set to work to find out if it is a worthy case; if so, then only the minimum amount of help is given. But the doctor or the hospital must ask no questions, refuse no help at any time, for fear of hurting somebody's feelings or of being accused of being hard-hearted. Everything must be done as if the patient were conferring a favor.

If immunization is part of a public health program, make the matter compulsory and carry it through to its logical conclusion. Do the same with smallpox vaccination, with scarlet fever, with typhoid. A public health measure paid for by taxation should

leave no freedom of choice to the individual. If my taxes are paying for immunization, I have a right to demand that everybody's child, every non-immune person, be immunized.

The greater the economic independence, the more patients will insist on this freedom of choice. Naturally, if one can afford to pay for individual service, one is going to obtain it if possible. Why deny this right to the worker, if he wishes it, any more than the financier?

The social worker is paid for her services and actually gives nothing, although given credit for it by the people. Her records of the amount of work she has done will determine her value to the organization employing her. When the physician is employed by a similar organization, or by the city, he also is paid for his services and can not be considered as doing charity work. Most of the free work in a community should be cared for in this way. When the hospital is asked for free services for a patient it should be entitled to a full history of the situation so that it can decide for itself whether or not the case is worthy. A patient having been accepted by the hospital should not be questioned by the physician. If he is imposed upon, the hospital authorities and not he should make the investigation.

A very serious obstacle to low medical fees is the competition by the horde of quacks allowed to practice their cults. As long as the legislatures fail to protect those to whom they have given the responsibility of public health, this result must obtain.

When people ask me my fee, I always reply "it will be in proportion to the services rendered." Telephone consultations should be charged for. The experienced engineer or lawyer expects to be paid for his knowledge, the young engineer or lawyer obtains less. The same standard should obtain in medicine.

The general practitioner has forgotten that he ought to take care of at least 95 per cent. of all his patients. This has naturally given the public the impression that the family doctor does not know very much. There has been no control of specialization in this country. Medical students have become enamored with the ease with which they may seemingly obtain this standard.

The teaching of thrift and living within one's means are the keynotes of credit. If some families will have things beyond their means it is not up to doctors to finance them, to give them free medical care, nor is it for the State to do so. The State has no more right to do this than to give free food, clothing and fuel. If the State, through a mistaken idea of democracy or socialism, should attempt it, those who will suffer ultimately will be the recipients. The medical profession will suffer temporarily, and many of us individually, but the experiment if tried will eventually prove that medicine as an individual service to humanity will be indispensable so long as suffering endures.

High Colonic Irrigation*

E. A. SUMNER, M.D., High Point, N. C.
Burrus Clinic

Each year medical men are becoming more and more interested in focal infections and toxic states in various diseases. We hear much about infection in teeth, tonsils, the cervix uteri, gall-bladder and other organs of the body; but often we are negligent in our examination of the colon and rectum, or after we determine that the colon may be at fault are content to give a purgative and hope that it will clear up the condition. I do not think that I am an extremist on focal infection or colonic stasis, and am not claiming that the colon is at fault in the majority of our cases. I do think an infected colon, or a colonic stasis with the absorption of putrefactive products and toxins, is often the cause or often aggravates some of the disease processes.

Cathartics probably are abused more than any one group of drugs. Mild laxatives or an occasional purge are of value in many conditions in ridding the colon of its contents, but the continued use of strong purgatives often causes an irritation of the intestinal mucosa with a resulting spasm of the musculature of the intestine, or later a marked relaxation due to overwork.

Proper diet, general improvement in hygienic surroundings, habit, rest, and exercise will aid greatly in the majority of cases, whether due to an atonia or to a spastic condition, but in severe, long-standing cases, or cases which are very toxic, high colonic irrigations are of much value.

Many of us are rather skeptical about colonic irrigations; often we have thought of it as an enema given with a lot of high-priced apparatus. Many connect the thought with non-medical men or nurses who use it mainly in large, expensive health resorts or hydro- and physical therapy clinics. It is not uncommon to have some of our wealthier clients to come to us after visiting some of these so-called rest centers, wanting tests made to determine their intestinal flora and insisting that we are not up to the last word in diagnosis and treatment unless we find that they

have an unfavorable intestinal flora, which must be corrected over a period of several weeks or months by a rigid diet often containing acidophilus or Bulgarian bacillus or by having cultures of these bacteria implanted through a colon tube into their large bowel. It often takes lots of time, patience and care to convince such patients they may not have a serious condition or that they need not have elimination many times a day from every known excretory organ. However, we find many patients who have been branded as neurasthenics, whose symptoms, mental and physical, will clear up wonderfully after a few colonic irrigations. It is often necessary to regulate the diet, the periods of rest and exercise, and often to use some such drug as strychnine. In atonic cases a little atropine is needed, and occasionally a mild sedative in the extremely nervous cases. Speissman of Chicago lauds changing the intestinal flora by using acidophilus bacillus by mouth, or preferably, by rectum. I have not had enough experience with acidophilus to give any definite conclusions of my own about it. Many patients insist upon having the doctor do more for them than just prescribing a few pills and asking them to come back in 10 days. The psychological effect is a great factor in most of our cases and if we can convince them that we are really giving them some personal attention they are more nearly satisfied. They usually clear up quicker and are not so apt to go from one clinic to another and finally into the hands of the quack.

In all cases we should have a complete history, physical examination and as nearly as possible a diagnosis before we can properly treat our patients. Many times a faulty diagnosis is made, or we fail to make a diagnosis because we fail to do a simple digital examination of the rectum. It is often necessary to have a gastro-intestinal x-ray or a barium enema, or in certain cases a proctoscopic examination. Some men do a colonic irrigation as a diagnostic measure to determine the

*Presented to the Guilford County (N. C.) Medical Society, meeting at High Point, May 7th, 1931.

amount of mucus or retained fecal matter, but I think it is of more value as a therapeutic measure after the diagnosis has been made.

Some of the commoner conditions which have yielded most kindly to this measure in my work are: toxemias and auto-intoxications, certain types of nephritis, cholecystitis and hepatitis, thyrotoxicosis, toxemias of pregnancy, rheumatic and arthritic cases, non-specific mucous colitis, colonic stasis due to either atonia or a spastic condition, diverticulitis, high fecal impaction, drug and alcohol addictions and some of the milder psychoses. I have given, or supervised, high colonic irrigations to 79 patients, a total of 379 irrigations, an average of about five to the patient. However, many receive only two or three irrigations, while others had as high as 12 to 14. Our best results were obtained in the cases of mucous colitis, only two out of 20 patients failed to be cured, and one of these had marked relief for several weeks. There are so many causes and types of mucous colitis that I do not think we can depend on irrigations alone, but we have found it very valuable in shortening their convalescence. The average number of irrigations in these cases is eight.

The hypertension cases with either a nephritis or a hepatitis received the next highest number of irrigations per patient. About 50 per cent. of these patients felt much better after a few irrigations and had a slight lowering of the systolic and diastolic pressure. The results in the majority of these cases, however, are rather transient, but irrigations will often help carry a patient through a crisis until proper therapeutic measures and rest will control the patient.

In giving the technique it will be necessary to briefly describe the apparatus used. In the past year several new and expensive types of apparatus have been placed on the market. The principle is practically the same in all, namely, a method of irrigating the entire colon and cecum with various solutions in rather large amounts and with a return flow so that the bowel is not distended; as the solution flows in through a long, rubber rectal tube it may escape through an outlet in the rectal speculum or through the colon tube itself. My apparatus is very simple, clean, and has been very satisfactory. It consists

of an upright metal stand mounted on rollers, one 3-gallon jar and two 1-gallon jars. These jars are connected by rubber tubing and a 3-way valve on the stand which connects to a long rubber tubing going to a 36-inch soft rectal tube, size 32 F., a speculum with an obturator to permit easy introduction into the rectum, and which is removed after the speculum enters the rectum. A screw cap with a hole in the center contains a soft rubber washer with a hole the size of the rectal tube fits on the end of the speculum after the obturator has been removed. A large outlet tube connects to the lower end of the speculum and drains down into a refuse basin which is closed after the tube enters the top. This prevents obnoxious odors in the room, and the soft rubber washer prevents the escape of fluid or fecal matter around the rectal tube and also wipes the tube clean and dry as it is removed from the rectum and colon.

The percolators are filled with various irrigating solutions according to the diagnosis of the condition. The large jar contains either a saponified olive oil solution or clear water which is to be used for cleansing or emptying the colon. This solution is used at a temperature of 106 to 110°. One of the smaller jars contains the medicative solution, sodium bicarbonate, used in acid states, potassium permanganate 1-8,000 solution, potassium bichromate 1-5,000, or boric acid, 1 per cent., to be used in the colitis cases. A bland oil, or a 1-800 solution of neosilvol is often better tolerated by the colitis cases complicated by ulceration of the colon. The other jar contains ordinary tap water at 70°, which is used as a rinsing solution following the medicated solution and which also helps to cause a peristalsis or contraction of the intestine. If there is a spastic condition present we do not use the cool solution.

The patient is placed on his left side, on a comfortable table with the right leg flexed and the left leg straight. The speculum is well lubricated and introduced slowly into the rectum. The obturator is removed, the screw cap placed on the end of the speculum, the colon tube inserted about four inches and the drain tube connected to the lower end of the speculum. About six or eight ounces of the cleansing solution is allowed to flow into the rectum, the outlet valve is open, letting the solution and fecal matter escape. This is

repeated until the solution returns clear. The outlet valve is then closed and with the solution flowing the rectal tube is slowly inserted, using a rotary motion. It will usually pass through the rectum and sigmoid and descending colon. After passing the descending colon allow the patient to turn on his back, the tube will usually pass through the splenic flexure with more ease. In this manner the tube is passed through the hepatic flexure and if the tube is long enough may pass into the cecum. Dr. Minor of St. Louis thinks that it is very difficult to pass a soft rubber tube through the sigmoid as the tube tends to curl on itself or enter sacculations in the bowel. Violent peristalsis occasionally occurs if the tube is forced or if too much solution is allowed to accumulate in the bowel. While advancing the tube open the outlet tube frequently so as not to overdistend the bowel. The inflowing fluid dilates the colon slightly in front of the tube, smooths out succulations and removes fecal and gas accumulations. In no case should the tube be forced while the patient is having a cramping sensation as you may injure the mucous membrane or even rupture the bowel. The medicated solution is allowed to flow in slowly and is withdrawn. The rinsing solution is then used and acidophilus bacillus or small amounts of weak medicated solution may be left in the bowel and the tube withdrawn. The patient is advised to lie quietly on the table for 20 or 30 minutes before going to stool. The whole procedure usually requires about 30 minutes, but if larger quantities than the five gallons of solution are needed the jars may be filled and the irrigation repeated. This is especially true in cholecystitis cases where you want to get a good drainage of the bile.

No one who does not understand the anatomy and physiology of the colon should be allowed to do a high colonic irrigation. It should not be entrusted to the untrained technician or orderly and great care should be used during the entire procedure, as great damage may be done to the colon if distended too much or if force is used in placing the tube. Only by experiencing the feel of the tube as you are doing the irrigation can you become adept in passing through the sigmoid or through an irritated bowel or spastic colon. Not all cases can be irrigated, due to painful

hemorrhoids, fissures or strictures of the rectum.

Colonic irrigation should be maintained on an ethical, conservative basis. The procedure which I have described is not a specific or a cure-all, but should be considered by ethical and modern medical men because of the diagnostic and therapeutic results which may be obtained by its use. It is a useful adjunct to other forms of therapy, is usually acceptable to the patient and is often invaluable to the physician in handling his patient.

Bibliography

1. MINOR, W. E., St. Louis: *Clinical Proctology*.
2. SPEISSMAN, M.G., Chicago: *Mucous Colitis. Jl. of Ambulant Proctology*, Nov., 1930, & April, 1930.
3. NUTTART, C. J., Philadelphia: *Colonic Therapy. Jl. of Ambulant Proctology*, Oct., 1929.

LET WRECK VICTIMS LIE

(H. T. Southworth, Prescott, Ariz., in *Southwestern Medicine*, Sept.)

In Arizona a man who sustained a minor injury was given transportation by a lady motorist. In her haste to get the patient to the hospital, she wrecked her car, killing herself and seriously injuring the patient.

"Splint them where they lie" or "let them lie," is the first aid in fracture cases.

The minimum equipment for the transportation and emergency treatment of fractures:

1. Thomas upper extremity splints.
2. Thomas lower extremity splints with traction straps, sling and buckle straps.
3. Hodgen splints.
4. Coaptation splints, assorted sizes.
5. Cabor wire splints.
6. Straight pieces of wood (of assorted length, width and thickness) for splints.
7. Plaster of paris bandages.
8. Suitable x-ray apparatus, including a portable machine, if practicable.

THE ST. PAUL ACADEMY OF MEDICINE AND SURGERY IN THE 60'S

(J. M. Armstrong in *Minnesota Medicine*, October)

The dues of the Academy were \$25.00 a year, and none of it was paid to the State Association, which did not then exist. The Academy maintained "two gas-lighted rooms on Third street, above George Benz Beer Saloon," had a chemical laboratory, an electrical machine for physiological experiments, and owned a compound microscope of the best make obtainable at that time. It is stated that when the scientific meeting adjourned a social meeting often continued downstairs.

Some Practical Points on Squint or Strabismus*

AMZI J. ELLINGTON, M.D., Burlington, N. C.

It would require a large volume to present a detailed and technical consideration of all the ocular muscle disturbances. This paper is written primarily to recall to the family doctor just what he should advise his patients concerning squint, especially in young children.

There seems to be an idea prevalent among the laity, and to a large degree among the general medical profession, that the treatment of a cross-eyed child should not be started until the child is old enough to go to school. Little do they realize that by the time the child has reached the age of 5 or 6 years great and permanent damage has been done the crossed eye. Above 6 years of age it is *hard* instead of *easy* to get the two eyes to function together. The eye that deviates has already lost some of its vision and unless heroic efforts are exerted the eye is destined to become blind from disuse.

There are several types of squint with various causes, which will be briefly mentioned, while a more careful consideration will be given the most common type, that of crossed eyes. An eye may deviate up or down, in or out. The two eyes may alternate in turning in or out, neither eye dominating.

ETIOLOGY

Ocular muscle paralysis, congenital or acquired, is not uncommon as a cause of squint and may result from external injuries, intracranial lesions, syphilis, or as a complication of an acute infectious disease. The latter condition, however, must not be confused with squint following an acute illness of a child with a high refractive error. In this case it is not a paralysis but a breaking down of ocular muscle balance, due to weakness, that causes the eye to deviate. Other causes of squint are ocular muscle anomalies, poor innervation, poor vision and, last but not the most common cause of all, refractive errors.

If a child, or we might say a baby, has a high error of vision, especially far-sightedness, there is very apt to be too great a strain on convergence when the eyes focus on close objects and a squint results. The turning of the

eyes inward to fix on a close object is closely related to focusing. These functions are controlled by centers in the brain, supposedly in the floor of the 4th ventricle. Over-accommodation tends to cause over-convergence. Another factor, that of fusion, has been more recently studied and stressed by leading oculists as of prime importance in the normal functioning of the two eyes together to get binocular single vision. A weakness or faulty development of the fusion center, located near the convergence and accommodation centers, may prevent the coordination of the two eyes and cause double vision. When a patient sees double he soon learns to suppress one image and that eye usually deviates, because the controlling faculty, fusion, is gone.

Here we come to the most important point we are trying to make, the *early* recognition and treatment of squint in young children. Cross-eyed children must not be neglected. Their eyes should be examined as soon as a squint is noticed and, if it is due (as most cases are) to an error of vision, glasses should be properly fitted and worn even at the age of 2 years. If glasses are delayed in refractive cases the fusion center does not develop, the controlling factor in binocular single vision is lost and a squint is inevitable.

One thing that has caused the laity and many practitioners to think that children would outgrow squint was the occasional case in which an excess of skin over the inner angle causes the eyes to appear to be crossed and the child looks like a Chinaman. As the bridge of the nose develops this fold of skin is drawn up and inward and the appearance of crossed eyes disappears. The really cross-eyed child never outgrows it.

TREATMENT

Treatment should be begun as early as the squint is observed, even at 6 months of age. In the most common type of cases—those due to a refractive error—lenses and orthoptic exercises will usually straighten the eyes. Start treatment as soon as the strabismus is noted and results may be safely promised in all cases; wait a few years and nothing may

*Presented to the Alamance-Caswell (N. C.) Medical Society, meeting at Haw River, October 13th, 1931.

be promised but an approximate cosmetic correction with one poorly-seeing eye. The first step in treatment is to treat the parents. They should be told what can and what can not be done. Without the coöperation of the parents the treatment is doomed to failure. Parents must be advised that if lenses and muscle exercises fail, as often happens in older children, then early operation is indicated—the younger the better. Very simple operations on one or more eye muscles must be done. It should be made clear that the eyeball itself is not disturbed, only the muscle attached to the ball. After the muscle operation has straightened the eyes, fusion treatment is necessary to develop the desire for binocular single vision, which prevents the eyes from again becoming crossed. General treatment to build up the bodies of weak children is indicated.

Not all cases of squint are due to refractive errors. Obviously a syphilitic paralysis must have specific treatment. Some cases of defective vision are not amenable to treatment nor operation. All of these facts should be given to the parents and a thorough examination of a squint case by a competent oculist should be advised. Many of these patients fall into the hands of quacks or incompetent optometrists who do not understand the problems involved. The result is another cross-eyed or cock-eyed individual to be taunted by schoolmates, embarrassed in love affairs and badly handicapped in life's business battles.

SUMMARY

1. Every child with a squint is entitled to a careful examination and to have normal vision restored, if possible.

2. Squint cases should be treated early and the time to operate is when glasses and treatment have failed, regardless of age. If operated on before the age of 6 years, binocular vision may be expected; after 6 years only cosmetic results can be promised.

3. The responsibility rests upon the medical profession to inform parents in this important problem. Lay people should be taught that strabismus can be cured; that children do not overcome strabismus or squint; that the operation is simple and not dangerous and that very little pain or reaction is to be anticipated.

It is a spur that keeps a man from stopping, not a nail in his boot to prevent him going.

VALUE OF ANTISYPHILITIC COMPOUNDS

(J. A. Kolmer, Phila., in *Jour. Chemotherapy*, Oct).

Wasserman reactions are indicated at least once or twice a year for the balance of life until more reliable criteria of cure are established.

In Wassermann-fast cases infection is present and periodic courses of treatment required for the balance of life.

Every case of syphilis requires one or more examinations of the spinal fluid.

No case can be regarded as cured with positive spinal fluid changes.

When positive findings disappear under treatment it is advisable to re-examine the fluid every year or two for a long period in order to detect possible neuro-relapse as soon as possible.

Best results are secured by the continuous method of treatment of acute early syphilis by the alternate plan.

In chronic syphilis the author prefers an alternate plan embracing the injection of an arsenical followed by one of bismuth or mercury and so on for a course along with the oral administration of an iodide.

IS SYPHILIS CURABLE?

Probably "not" unaided by medicinal treatment as immunological resistance alone is unable to effect a complete recovery.

Doubtless "yes" in the majority of acute early cases treated by the continuous plan over an adequate period of time.

Doubtless "no" when treatment is instituted in the chronic stages of acquired syphilis and in prenatal syphilis insofar as complete eradication of the infection is concerned.

But "yes" in many cases of chronic acquired syphilis and prenatal (congenital) syphilis insofar as clinical cure is concerned embracing a sufficient eradication of the infection to prevent further progress of the infection over the usual span of life.

A FEW FOOD FACTS

(O. T. Osborne, Yale Univ.)

Nothing interferes more with normal digestion than thinking about it.

It should be remembered that the world is populated today with children and grownups who grew in spite of the lack of knowledge of vitamins.

Quackery is always ready to grasp the prevailing fad and make money out of it. Hence the continuous advertisements of foods that contain vitamins.

Fried foods may digest as well as boiled or roasted or broiled foods.

The fatty meats are only a little slower of digestion than meats without fat.

Before anyone radically changes his diet he should consult his physician.

A most unhappy childhood is usual in a psychoneurosis.—F. G. Ebaugh, Denver, in *Nebraska Med. J.*, Oct.

Arthritis*

T. PRESTON WHITE, M.D., Charlotte, N. C.

Arthritis is, as stated by the American Committee for the Control of Rheumatism, a generalized disease with joint manifestations. Just now I shall not consider specific forms of arthritis, such as the tuberculous and traumatic types, but that great group called by most of us rheumatism. For clinical purposes, it may be sub-divided into 1. atrophic or proliferative arthritis, called by the English rheumatoid arthritis; and 2. hypertrophic or degenerative, what the English call osteoarthritis.

To give an idea of the economic importance of arthritis:—

In Great Britain, in 1927, rheumatic diseases came third on the list of conditions for which physicians were consulted by the 15,000,000 insured industrial workers. The British Ministry of Health in 1927 paid out \$25,000,000 in benefits for disability due to rheumatic diseases, representing a disability period of nearly 6,000,000 weeks. In Switzerland, in 1927, 11.4 per cent. of the total disability benefit was paid to rheumatic patients and roughly twice as many cases of permanent invalidism were due to rheumatism as to tuberculosis. Of the 7,297 permanent invalids in Denmark in 1923, 1,700 were suffering from chronic rheumatism. Among the working population of Berlin, diseases of the joints and muscles when compared with all kinds of tuberculous affections, showed 8.2 times more cases, 3.4 times more days of illness, and 1.4 times more invalidism. In Sweden the government has provided four hospitals for the exclusive care of chronic arthritis. In this country rheumatic diseases rank in importance second to cardio-vascular diseases, including those of old age. The Massachusetts State Department of Health estimates that there are now in the State of Massachusetts, with a total population of of 4,380,000—

10,000	cases of cancer
25,000	" " tuberculosis
85,000	" " heart disease
150,000	" " rheumatism

There are, therefore approximately—

Twice as many cases of rheumatism as of heart disease
6 times as many cases of rheumatism as of tuberculosis, and
15 times as many cases of rheumatism as of cancer.

The pathological changes in the atrophic type are proliferation of the synovial membrane with pannus formation, with final atrophy of cartilage and with the formation of fibrous adhesions. The end clinical picture is either a fibrous or bony ankylosis. In the 2nd, or hypertrophic type a degeneration or fibrillation of the hyaline cartilage of the articular surface takes place. This allows bone to come in contact with bone with resulting eburnation of the articular surfaces. True bony ankylosis never occurs in this type. Heberden's nodes seen in the distal phalangeal joints of the hands are typical of this type and these nodes represent an overgrowth of cartilage that is transformed into bone.

Differentiation of the two main types of chronic arthritis: Leading characteristics of each of the great types are contrasted as far as possible but cannot be taken too rigidly. The differential diagnosis is important in relation to the local treatment of the joint lesion. No opinion is implied as to common etiology, or as to differences in the essential principles of treatment of the generalized disease in the two contrasted types.

<i>Atrophic</i>	<i>Hypertrophic</i>
<i>Age</i> —Any, usually below 40	From middle life on
<i>Body type</i> —Usually slender	Usually stocky
<i>Onset</i> —Acute to insidious	Subacute to so gradual as to escape attention
<i>Gen'l health</i> —Impaired, easily fatigued, disability and pain after pronounced joint swellings, muscle atrophy	Less impaired, all symptoms less severe
<i>Systemic reaction</i> —Profound, with multiple joint involvement	Slight, one or two joints involved
<i>Atrophy</i> —Rapid and marked	Less

*Presented to Third District (N. C.) Medical Society, meeting at Carolina Beach, July 23rd, 1931.

<i>Effusion</i> —Common, large and intermittent	Infrequent and slight
<i>Early x-ray appearances</i> —No early change in cartilage or bone. With + density soft parts, — density of bone	Lipping of joint margin, often no + density of soft parts, less — density of bone, unless from long non-use
<i>Late x-ray appearances</i> —Gen'l atrophy, no lipping, narrowed articular space, subluxation, ankylosis	Hyperostoses, articular space irregular, no ankylosis

The basal factors are heredity, constitution and body build. These lead to the pre-disposed individual. The influencing factors are fatigue (mental and physical), foci of infection, disfunction of the gastro-intestinal tract, excessive and inadequately balanced food intake, exposure to cold or damp, and possibly a congenitally poor nervous system.

Inadequate treatment leads downhill with increasing disability, increasing disfunction of the gastro-intestinal tract, anorexia, contracture, limited motion of ankylosis, atrophy of muscles, circulatory and trophic disturbances, edema, confinement to the wheel-chair or bed, and intercurrent disease and death after many years of suffering. Proper treatment leads to betterment of the disturbances of physiology, locally and systematically, by means of:

1. Rest—

a. Locally to joints, careful daily motion of atrophic joints by patient himself; guarded motion and protection to hypertrophic joints.

b. Systemically, necessary to restore balance of nervous system and achieve full influence of reparative forces, as after fractures, surgery, shock, etc.

2. Intelligent correction of removal of toxic factors, such as foci of infection, perhaps most important in the atrophic type, though never to be overlooked.

3. Betterment of the gastro-intestinal function by diet, improved elimination, etc.

4. Adjustment of food to supply balanced ration with adequate vitamins and avoidance of too great a quantity of carbohydrates. This usually necessitates a reduction of starches and sweets.

Many patients with chronic arthritis show disturbances of tone and motility of the colon. These disturbances should be interpreted as manifestations of faulty nutrition and an indication for treatment by diets high in vitamins and low in carbohydrates. Faulty nutri-

tion contributes to lowered resistance against infection. The cecum is usually atonic, the colon is longer, and there is often marked ileo-cecal leak, making it at times difficult to fill the colon with barium. Usually there is marked loss of haustrations. After treatment with a diet rich in vitamins and low in carbohydrates, x-ray pictures reveal a marked improvement in tone and a return of haustrations. Another interesting fact is the reported examination of 242 stools of 40 chronic arthritis patients before treatment, revealing an excess of starch and fermentation in approximately 80 per cent., whereas examination of 97 stools from 71 patients with many other diseases selected at random revealed excessive starch and fermentation in only 25 per cent. This suggested that the chronic arthritis patient has difficulty in utilizing starch which he is prone to take in excess. It also emphasizes the value of a low carbohydrate diet.

5. Physical therapy: Heat (including hydrotherapy) locally to open vascular channels, sometimes systemically to influence metabolism. This paves the way for massage, locally to open vascular channels and promote drainage; often systemically. Artificial light therapy sometimes useful.

Evidence of the disturbances of circulation in arthritis may be summed up as follows:

1st, the cold hands and feet;

2nd, the lowered peripheral temperature of arthritics as compared to normals when measured by the thermocouple;

3rd, the closure of capillary beds and the interruption of blood flow through them, as shown by direct observation under the microscope;

4th, the inability of the arthritic to adjust his peripheral circulation to abrupt environmental changes of temperature as determined by the thermocouple;

5th, the experimental production of changes resembling chiefly hypertrophic arthritis by interference with the blood supply to the patella of dogs;

6th, the release of vasoconstriction at the periphery by the operation of sympathectomy and by foreign protein injections in cases of atrophic arthritis. The lowered metabolic rate of many arthritics of both types is probably referable chiefly to the curtailment of blood to the muscular and other tissues concerned. These disturbances of circulation are

brought about by various constitutional and toxic factors probably through their influence on the sympathetic nervous system.

The systemic nature of the problem and the necessity of modifying the peripheral changes of physiology, become obvious.

6. Postural exercises to correct and atone for faulty body mechanics, malposture, imperfect action of the diaphragm, ptosis, fixation of the thoracic cage, etc.

7. Non-specific protein injections may be useful to stimulate metabolism and improve the finer circulation. Vaccines may also be useful in this way as well as more specifically.

8. Tonic medication, as with strychnia. The iodides and the cautious use of salicylates and thyroid may be of value.

9. Psychic re-education toward meeting the problem of chronic disease.

10. Orthopedic surgery. Last, but of equal importance with the others, comes the work of the orthopedic surgeon who must look after the body mechanics of the individual. It is he who has been forced to look after badly crippled individuals because the medical man has failed to arrest the disease in its beginning, and it is he who must correct posture and look after the partially or totally ankylosed joints or contractures. Every medical man can be helped by an orthopedic surgeon when the arthritis patient has reached the stage of chronicity.

Arthritis is a medical problem and needs as much careful analysis as does a case of nephritis or tuberculosis. It is important to learn more about arthritis but it is more important, in terms of living arthritics, for the profession to know what is already known about arthritis. No single therapeutic measure of value in arthritis should be considered except as part of a coördinated program. The problem of the control of chronic arthritis has many analogies to that of tuberculosis. The organism causing tuberculosis has been known since 1882. The prevention and cure of tuberculosis, however, depends upon a constructive regimen, based on broad physiological considerations. The general attitude toward chronic arthritis is best described:

LAY: "Save me from this vile disease in return for my piety", *Catullus*;

PROFESSIONAL: "Abandon hope all ye who enter here", *Dante*.

The acute attitude toward chronic arthritis should be: Chronic arthritis is an acute problem. There are few chronic diseases for which more can be done.

In closing, I would like to again stress the importance of thorough study, both from the standpoint of history and physical examination, and that only with the combined use of the methods of treatment outlined are we going to get the results so much desired by our patients and by ourselves. Treatment from one standpoint alone is not likely to overcome the disease or to cure the patient; but a combined attack with all these measures directed against the disease and toward augmenting the patient's resistance, will produce amazingly successful results.

A NEW TREATMENT FOR ACUTE BURSITIS

(T. K. Richards, *New Eng. Jour. Med.*, Oct. 22nd)

Iron cacodylate 1 c.c. (1/5 of a grain) every third day, increasing the amount by 1 c.c. until 5 c.c. or 1 grain, were given. Following the first injection there was a distinct improvement; the shoulder was less painful and its motions were freer. At the end of five injections the acute symptoms had disappeared and there was no restriction of the shoulder motions. The result was so startling that other patients suffering from acute bursitis were asked if they were willing to try these injections. In all there have been approximately 70 cases of acute bursitis—the sub-acromial, subscapular, and infrapatellar bursae being involved. The vast majority of these patients have returned to their normal activities or play with complete absence of symptoms and no restrictions of motions, from 10 to 21 days following the first intravenous injection.

THE USES AND MISUSES OF VACCINES

(J. A. Braxton Hicks, London, in *British Med. Jour.*, Oct. 10th)

After 50 I am always chary of advising a vaccine, and in my opinion the lack of success with colon bacilluria in elderly women is due to "anno Domini."

I regard phthisis, even apyrexial cases, as quite unsuitable for tuberculin treatment, at any rate outside a sanatorium.

In gonococcal infections I have never been in the last impressed with the results of vaccines in the acute stages. In women I do not give vaccines, because, candidly, I am afraid of possibly producing violent reaction, with spread to the tubes and peritoneum. I have seen it occur more than once, and I do not think it worth the risk for the problematical benefit that may accrue.

In patients who suffer from recurrent colds, particularly the seasonal ones of autumn and spring, much can be done by autogenous vaccines in the former and stock vaccines given prophylactically in the latter case.

Phrenicectomy in the Treatment of Tuberculosis*

R. B. DAVIS, M.D., F.A.C.S., Greensboro, N. C.

Phrenicectomy is, as the word denotes, a taking out of the phrenic nerve. As far back as 1911 Willy Felix performed this operation for advanced pulmonary tuberculosis; but, as has been true of most great advances in medicine and surgery, some influential, jealous physicians immediately decried its benefits and for years afterwards the poor tuberculous victims kept on dying as before, although a cure was within their reach. May we of today not be guilty of blocking the wheels of progress because of any personal or selfish reasons.

The treatment of tuberculosis consists for the most part of rest and nourishment. The matter of nourishment is easy to control. Anyone can get the proper diet now since all laymen realize that this is so very essential in the treatment. When it comes to rest, however, we have a very different problem. Because a patient is lying in bed and thoroughly resting his skeletal muscles it does not necessarily follow that every organ in his body is resting accordingly. This is especially true in the case of tuberculosis of the lungs. To rest a sick lung further we have resorted generally to pneumothorax, which is an ideal method when it can be successfully carried out. But in many cases, for one reason or another, it cannot be done, and it is here that phrenicectomy has been such a godsend to these unfortunate people.

The diaphragm muscle is a very large factor in controlling the expansion of the lung. It is capable of reducing the cubic inches of space in the thoracic cavity almost 50 per cent. You will recall that the two phrenic nerves control the right and left sides of this muscle; therefore, if this nerve is removed that side of the diaphragm is paralyzed and the result is relaxation. When the diaphragm relaxes it rises up in the chest cavity, thereby greatly decreasing the intrathoracic space. This in turn reduces the lung activity with each respiratory excursion, which of course promotes healing. The walls of the cavity are collapsed and this is the only known method of getting a cavity to heal. It is in the advanced cases with cavity formation

that we get such brilliant results. I have reviewed the work of 16 authors and studied the report of 1,267 cases. I am happy to report that everyone who has followed this method of treatment has been highly pleased with the results.

The technique of the operation, as we do it, is as follows: The patient lies on his back and turns his head to the opposite side from the field of operation. The side of the neck, upper chest and shoulder is prepared and draped just as for any neck operation. Under 1-per cent. novocaine anesthesia, we make a transverse incision one to one and one-half inches long an inch above the clavicle. The center of the incision should fall over the outer edge of the sternomastoid muscle. This edge can be easily located by having the patient raise his head. The muscle then stands out very prominently. As soon as the skin and fascia are cut through, we retract the edges and see the tough cervical fascia which envelopes the sternomastoid fascia. This is cut longitudinally just external to the muscle but not close enough to expose the muscle fibers. The retractors now pull the muscle inward. This exposes another thin fascia under which lies a pad of fat. The location of this fat is very important. Frequently there is lying in it a fair-sized vessel which is a branch of either the transversalis coli or the ascending cervical artery. This pad of fat must be bluntly dissected in order not to get into trouble from hemorrhage. Just beneath this lies the anterior scalenus muscle. Upon this muscle, and in, on, or beneath its fascia, lies the phrenic nerve.

At times the nerve can be felt easier than it can be seen. If the nerve lies on top of the fascia care must be taken not to retract it with the other structures. One is fortunate if he is able to see it the first time the fat is retracted, but by careful search and frequent palpation it is usually found within a short time. Its course is downward, forward and inward. No other normal nerve in this region has the same course. When you locate a nerve that looks like the phrenic, give it a sudden firm pinch. If it is the right nerve

*Presented to the Eighth District (N. C.) Medical Society, meeting at Reidsville, October 2nd, 1931.

the diaphragm will suddenly contract and if your assistant will rest his hand on the chest he can easily feel it. The patient will cry out also but more from fright than pain. Repeating this does not always cause a contraction. The recurrent laryngeal nerve and the vagus nerve are in close proximity on the mesial side but they all run straight downward. If one is in doubt give it a gentle pinch and ask the patient if it hurts. The answer will come in a horse whisper, "No." This of course gives the information you were seeking. The vagus is the largest nerve on the mesial side and this helps to distinguish it. However, it is such an important nerve that, should there be any doubt, further investigation should be made. A very gentle pinch will produce a severe pain in the throat, chest, and upper abdomen. The patient will also become greatly alarmed and pant for breath. He will say he is in a cramp around his heart. The whole picture denoted is—*danger*. On the outer side of the phrenic nerve we have the cords of the brachial plexus. These cords are large and flat and run downward and outward. Pinching these gives pain in the peak of the shoulder and down the arm. It is not hard to distinguish these from the phrenic nerve. A safe and sound rule to follow is not to cut any nerve unless you are sure that it is the phrenic or one of its accessories.

Injury to the recurrent laryngeal nerve will produce hoarseness, and for the surgeon this is a very dangerous result. Any jury would give a large verdict in a suit. If the vagus is cut, the undertaker may cover your error but your reputation will suffer. The mortality in phrenicectomy is one-half of one per cent., while of the 24 cases reported in the literature in which the vagus was cut 12 patients died.

After the nerve has been definitely located it should be injected with one drop of novocaine and incised as high up as possible in the neck. The lower end is held in a straight forceps. Gentle but firm traction is now made upon this lower end. Soon the resistance will become so great that it will be necessary to place a curved hemostat to act as a fulcrum under the straight one and roll the nerve up on it as a well rope is wound upon a windlass. The curved forceps can be held with the left hand, leaving the right hand free to avulse the nerve. During the process the patient will

complain of pain in the shoulder and chest. If he complains too much, or if the resistance becomes too severe, it is well to relax the nerve for a few seconds and then continue as before. As soon as the nerve gives way there will be no more pain. The best results are obtained when the whole nerve comes out. This is evidenced by the lower end being larger and containing several branches where it enters the diaphragm muscle. The fat pad is now sutured and the wound closed in layers without a drain.

—Suite 406-408 Piedmont Building

MAGGOTS, LITERAL AND FIGURATIVE

(From Review in the Medical Recorder of 1826, of an Article in N. A. Med. & Surg. J., 1826)

In this paper [by Dr. Hunt, of Washington] there are some gratuitous positions, which are both unscientific and untenable; as, that places where animal putrefaction takes place are favorable to weak lungs. We believe animal putrefaction is unfavorable to animal life in every shape, except to raising maggots in the mass which is the subject of it, and in the brains of some eccentric doctors, who are content to make their own faith the standard of truth, and require no other proof to support it. The essay concludes with the recommendation of the Red Sulphur Springs, about 18 miles southwest of Monroe court house, in Virginia, upon a branch of New River. They relieve the cough, restore the perspiration, and have produced great cures of obstinate pectoral affections. The air of the pine forests of Alabama or South Carolina is recommended to complete the cure.

NITRITES IN THE ANGINAL SYNDROME

(A. M. Burgess, Providence, in *Annals of Int. Med.*, Oct.)

Except for a very transient fall in blood pressure after amyl nitrite neither it nor nitroglycerine, when used in the usual therapeutic doses, causes any consistent blood pressure changes in normal human beings or in persons with arterial hypertension with or without severe renal damage or retinal arteriolar sclerosis.

In persons suffering from attacks of angina pectoris of the usual ambulatory type, a rapid fall in systolic and usually in diastolic pressure takes place after the use of these drugs.

The pain relief which occurs in these cases of ambulatory angina is independent of the pressure levels and therefore apparently independent of the action of the nitrites on the peripheral vessels but due to their action in increasing coronary circulation.

The cause of the pain in ambulatory angina is probably an ischemia of the myocardium dependent upon an insufficient blood supply due to disease of the coronary arteries.

A Report on the Results of the Examination for Tuberculosis of 1,259 School Children

JOHN DONNELLY, M.D., Huntersville, N. C.
Mecklenburg Sanatorium

In the spring of the present year, in collaboration with Dr. E. H. Hand, County Health Officer of Mecklenburg County, North Carolina, the writer instituted, in connection with the tuberculosis case-finding program in this county, a series of tuberculosis clinics in the county schools. Previously, this work had been conducted in a very unsatisfactory and incomplete manner through the facilities of the Charlotte Tuberculosis Clinic, with the assistance of the county and city school nurses, who were requested to refer contacts and apparently below-par children to this clinic for examination.

The Children's Department of the Mecklenburg Sanatorium, with a capacity of 40 beds, was completed and opened in March, 1929. This increase of facilities for the work, and the interest aroused among the people of the county by the results obtained, which eliminated a greater part of the opposition of the parents to these examinations, seemed to us to justify the addition of the Tuberculosis School Clinic as a permanent part of our tuberculosis program. It is our intention to conduct one, and possibly two, of these series of clinics each school year. We feel that it is by far the most valuable part of any case-finding program. In fact, any program without it is most decidedly incomplete.

This first series of clinics, as I have stated, was conducted in the rural schools. Therefore, the residence of the greater number of the children examined was somewhat removed from the more-or-less congested areas of the center of population. In spite of this fact, our percentage of positive skin reactions and positive cases by x-ray, are somewhat higher than that found in clinics held in other counties of North Carolina. The test used was the Mantoux intradermal, 0.1 mgm. strength, and, owing to lack of time, as we desired to complete the number of schools listed before the end of the school term, only this one test was used. Undoubtedly, if we had again tested the negatives with 1.0 mgm. strength, we should have increased our roster of positive reactions very materially.

Each child with a positive skin reaction was also given a general physical examination, and all other abnormalities, such as diseased tonsils, bad teeth, bone conditions, glandular enlargements, skin conditions, etc., were noted, and recorded on the individual charts. When the examinations were completed the parents of each child were mailed a form stating whether or not the child had a tuberculous condition, and whatever other physical condition was found that needed correction.

Probably this number of examinations is too small to allow the forming of any very definite conclusions from the result obtained, but certain observations deduced from these results may be of some interest. The ages of those examined were from 6 years to 20 years, the greater number being from 6 to 15. One high school was tested, which accounts for the few of higher age. Of the 1,259 children skin-tested, 277 showed positive skin reactions of varying degrees, a percentage of the total number of 22.01. The following table shows the percentage of positive skin reactions by ages:

Age	No. Tested	Number Positive Reactions	%
6 yrs.	112	25	22.3
7 yrs.	179	32	17.87
8 yrs.	163	44	27.
9 yrs.	138	36	26.
10 yrs.	144	35	24.3
11 yrs.	132	25	18.94
12 yrs.	123	27	22.
13 yrs.	79	17	21.5
14 yrs.	74	10	13.5
15 yrs.	55	15	16.3
16 yrs.	27	6	22.22
17 to 20 yrs.	46	11	23.9

As this total indicates, the highest number skin-tested at any age was 179 at 7 years of age. The highest number of reactions (44), and the highest percentage of reactions (27 per cent.) occurred at 8 years of age. The next highest number was at 9 years of age, and the percentage of reactions at this age was 26 per cent., only 1 per cent less than at

age 8. It is also indicated by this table that the percentage of reactors rose from 6 until 8 years of age was reached. After this age the ratio began to gradually decline until the age of 14 years was reached, when it began to rise again. In calling attention to this rise and fall in percentage, it is worthy of note that reactions at the age of 7 years were about 4 per cent. less than at 6 years of age, and nearly 10 per cent. less than at 8 years of age. Also, at the age of 11 years the reactors were 5 per cent. less than at 10 years of age, and 3 per cent. less than at 12 years, the percentage being nearly the same at 7 and 11 years of age. At 6, 12 and 16 years of age the proportions were practically equal.

Of the 277 positive skin reactors, 47, or 3.18 per cent. of the total number of 1,259 tested, proved to be positive by x-ray. The following table shows the percentage by ages of the positive by x-ray cases:

Age	Number positive reactors	Positive by X-ray	% of those skin-tested
6 yrs.	25	5	4.48
7 yrs.	32	5	2.79
8 yrs.	44	2	1.22
9 yrs.	36	10	7.24
10 yrs.	35	9	6.25
11 yrs.	25	6	4.54
12 yrs.	27	2	1.62
13 yrs.	17	2	2.53
14 yrs.	10	4	5.4
15 yrs.	15	1	1.81
16 yrs.	6	1	3.7
17 to 20 yrs.	11	0	0.

Of the 44 reactors at 8 years of age only two were positive by x-ray, although there were more reactors at this age than at any other. Also, of the 27 reactors at 12 years of age, only two were positive for tuberculosis by x-ray. By reference to the above table it will be seen that, up to the age of 14 years, the lowest percentage of x-ray positives were at the age of 8 years, with 1.22 per cent., and at the age of 12 years, with 1.61 per cent.

The total number of positive skin reactions at the ages of 9, 10 and 11 years was 96 of 414 tested. Of the 96 reactors, 25 were positive for tuberculosis by x-ray, a percentage of 6.04. At all other ages there were 171 positive reactors of 845 tested. Of this number (171), 22 were positive by x-ray, or 2.6 per cent. of the number tested. Although

at the age of 16 one case was positive by x-ray out of 6 reactors, from the years 17 to 20 there were 11 reactors without a single case being positive by x-ray.

The degree of the skin reaction was designated by 1-, 2-, 3- or 4-plus. The following table shows the number of each degree of reaction, with the percentage of positives by x-ray under each division.

Degree of reaction	Number	Positive by X-ray	%	
1+	78	6	7.7	
2+	108	10	9.2	
3+	88	29	32.95	
4+	3	2	66.66	One absent from X-ray
Total	277	47		

The highest number in any degree of reaction was in the 2-plus classification with 108. There was very little difference in the percentage of the positive by x-ray cases between the 1-plus and 2-plus reactors (7.7 per cent. and 9.2 per cent., respectively), but there was a very considerable rise in the 3-plus division to 32.95 per cent. Of the 3 4-plus reactors, 2 were positive by x-ray, and 1 child has as yet failed to appear for a picture. One of the 4-plus positive by x-ray cases had a fairly extensive bilateral pulmonary involvement. One of the positive by x-ray 3-plus reactors had a pleural effusion. All of the positives were of the childhood type of tuberculosis, with the exception of these 2. One flat film and one oblique were taken in each case.

The relation of body weight to the possibility of tuberculous disease in these children is also of interest. The positive skin reactors have been classified as (1) more than 10 per cent. below average normal, (2) from 10 per cent. below to average normal, and (3) above average normal. The number in each classification was as follows:

1. More than 10% below normal	39
2. From 10% below normal to normal	125
3. Above normal	105
Cases whose weight was not recorded	8
Total	277

According to the same classification the 47 positive by x-ray were divided as follows:

1. More than 10% below average normal.....	12
2. From 10% below to normal.....	25
3. Above normal	10
<i>Total</i>	47

As will be noted, 230 of the 277 positive skin-reactors were from above 10 per cent. below normal to above normal, while 35 of the 47 positive by x-ray cases were above 10 per cent. below the average normal in weight.

The subject of a contact history in the cases of positive infection with the tubercle bacillus is, of course, a matter of importance. However, in our series of 277 positive skin reactions a history of contact was obtained in 116 cases, but in 161 cases no evidence of contact could be found.

OBSERVATIONS AND CONCLUSIONS

1. It is our opinion that no tuberculosis case-finding program can be complete without the inclusion of the regular yearly school clinic.

2. Regular repetition of the procedure will, to a very large extent, eliminate parental objection to this part of the program.

3. Based on our results, skin-testing of school children will show a probable minimum of 25 per cent. tuberculous infection, of which number 3 to 5 per cent. will show definite tuberculous lesions by x-ray examination.

4. Judging from the results in our series of cases, the possibility of active tuberculous disease in children, is directly in proportion to the violence of the skin reaction.

5. The highest percentage of positive cases by x-ray was found at the ages of 9, 10 and 11 years, and no positives were found in 11 cases examined between the ages of 16 and 20 years.

6. The percentage of positive skin reactions by age division continued to rise to the age of 8 years, after which it began to gradually decline. It continued to decline to the age of 14 years, after which age it began to rise again.

7. Body weight is of practically no importance in the examination of children for tuberculous disease.

8. Not being able to obtain a history of contact is of decidedly doubtful value in eliminating the possibility of tuberculous infection in children. For that reason, the recognition of this infection, and the follow-up effort to

find the source of individual exposure to the disease, is of paramount importance in case-finding. It is a well authenticated fact that frequently cases of tuberculous disease of the open type remain for years undiagnosed, but are always a potential danger. It is well to remember that whenever a child shows a positive skin reaction there has been somewhere and at some time a source of infection. It is necessary to locate these sources of infection as far as is possible.

9. The skin-testing and x-ray of children as diagnostic measures in tuberculosis work is a very important educational item. There still remains in the minds of a great number of the laity the idea that being afflicted with tuberculosis is more or less of a disgrace. Stressing the necessity of early diagnosis in children, and the wonderful results obtained in treatment of those infected, will, to a large extent, tend to eliminate permanently this idea in regard to the disease.

THE HOME TREATMENT OF THE TUBERCULOUS PATIENT

(D. R. Hastings, Minneapolis in *Journal-Lancet*, October 15th)

Although sanatorium life is the ideal way of caring for the tuberculous patient, there are many unrealized possibilities open to the patient who must take the home cure.

In a sanatorium the hope and desire to regain health is obtained to a great extent from the environment. In the home an understanding physician can do a great deal to establish the attitude, and with him lies the real responsibility. The establishment of a proper frame of mind is undoubtedly the greatest difficulty to be met outside the sanatorium. The remaining part of the treatment is essentially the same in the sanatorium and in the home. Sanatorium similarity can be obtained if a large south bedroom is available. Even better is a large bedroom with an adjacent sun porch. Where neither of these is obtainable, suitable arrangements can be made if one is dealing with an average home.

Of course more effort and patience are required to obtain the same results. Regular hours for meals, rest, bathing, etc., are essential. An attractive tray with appetizing food is a wonderful aid to digestion and nourishment.

Phrenicotomy and thoracoplasty must be performed in the hospital or sanatorium, and after the patient has recovered sufficiently from the operation, he may be returned to the home. If the patient is to be given pneumothorax, he should be in a hospital or sanatorium until a suitable collapse is obtained.

Notes On Diagnosis and Treatment

A Column Conducted By

THE STAFF OF THE PARK VIEW HOSPITAL
Rocky Mount, N. C.

For this issue, EDMOND S. BOICE, M.D., F.A.C.S.

SPONGING TO REALLY REDUCE FEVER

Sponging for fever as ordinarily carried out by the nurse is often totally inadequate for really high fever with prostration, semi-consciousness, etc. If a patient in such a condition is put on a rubber sheet, stripped of all clothing except a loin cloth and absolutely necessary wound dressings, and then kept wet from head to foot by constantly mopping with a saturated cloth, squeezing on more water as fast as that on the body evaporates, real results will be achieved. Very often apparently hopeless cases will come around after from one-half to one hour of this persistent mopping, become perfectly rational and go on to recovery. Sometimes one such treatment is enough, sometimes it must be given repeatedly as the fever rises again. Use tepid or even slightly warm water, remembering that it is the constant evaporation of a thin film of water which reduces the fever. Ice water is rarely if ever necessary, and usually, like the old hemorrhoid plug, is best "reserved for malefactors and personal enemies." Possible exceptions include the high fever sometimes following operation for hyperthyroidism and the fever of sunstroke. Don't be in too big a hurry to dry off and put on dry clothing and sheets. Let the patient stay wet and exposed for evaporation until the fever is really down and serious symptoms have abated.

SALINE UNDER THE SKIN

In the many conditions in which large quantities of fluid are needed, especially if oral administration is contraindicated or not well borne, the advantages of normal saline by hypodermoclysis are often not fully appreciated. Properly given, from 2,000 to 4,000 c.c. can be utilized in 24 hours. Unlike fluids by mouth or rectum there is no guess work about it. All that is given is retained to be taken up gradually and certainly by the circulation and distributed to the body tissues. Its administration is easy, safe and unattended by reaction, and does not require the presence of the physician, being well within the

ability of a capable nurse. If a nurse is not available the physician himself may easily get 1,000 c.c. into the subcutaneous tissues in from one-half to one hour, especially if he avails himself of a Y connection and uses two needles. Once the solution is in the subcutaneous tissues, even though a large pone is produced, the patient is assured of a quart of water whether he drinks any or not. When this forced administration is used gentle kneading pressure should be practiced to promote diffusion and prevent undue tension. Obviously the better plan is to have a nurse in charge and give the solution more slowly.

The most satisfactory point for absorption is in the loose tissues of the axilla, best reached by pushing the needle upward in the subcutaneous tissues on the side of the chest. The needle may also be inserted downward and outward from a point just below the clavicle. Less desirable points are below the breast and in the thigh. By properly rotating the sites of administration and not giving more than 1,000 to 2,000 c.c. before changing the needle, it can be kept up almost indefinitely without risk and with no great discomfort. To get the same results by the intravenous route presents certain obvious disadvantages, not the least of which is the difficulty of procuring the necessary amount of freshly distilled water.

Preliminary novocaine infiltration of the site of the needle puncture, proper sterilization of solution and apparatus, and proper temperature of the solution go without saying. The practice of putting a hot water bag over a coil of the tubing may lead to a slough from too much heat, especially if the solution is alternately turned off and on and the bag is not removed from the tubing during the time the solution is not running.

Strap the needle to the chest with adhesive, and, if the patient throws his arms about, lead the tubing under a pillow to the side or head of the bed.

Repeated insistence, by gynecologists (H. S. Crossen, St. Louis, in *Amer. Jour. Obs. & Gyn.*, Oct.) in their writings and in their teachings to students, that it is imperative to make prompt removal of chronic irritation in the cervix in the latter part of the child-bearing period, will greatly aid in establishing this practice.

Matters of Concern to Doctors Generally

A Column Conducted By

THE STAFF OF THE DAVIS HOSPITAL

Statesville, N. C.

For this issue, JAMES W. DAVIS, M.D., F.A.C.S.

ECTOPIC PREGNANCY

The diagnosis of ectopic pregnancy is often difficult. Many cases are not seen by a doctor until, after exertion or not, the tube has ruptured and the patient lies in a faint. Many cases of ectopic or extrauterine pregnancy may be diagnosed before even pain is sufficiently pronounced to be noticeable. Any irregular uterine hemorrhage in a married woman of child-bearing age should make the doctor think of this possibility. Sometimes the first symptom noticed is irregular, persistent, painless uterine hemorrhage, usually not severe. This may start at the time a period is expected; it usually persists longer and causes the patient some alarm. Sometimes there is pain associated with the bleeding. A carefully elicited history is a most important factor in making an early diagnosis, especially in atypical cases. Pelvic, bimanual examinations should be made with the greatest gentleness and caution. Even light compression of an already tightly distended tube may be sufficient to cause a rupture with the typical symptoms.

It must be remembered that an ovum may be fertilized and begin to develop at any point from the cornu of the uterus out to the ovary, or even in the abdomen.

Some years ago I saw a mother of two children nauseated and vomiting following what she thought was a miscarriage. A slight icterus was present, also slight abdominal pain, and a small tumor could be felt in the right lower abdomen.

A diagnosis of ectopic pregnancy was made. At operation there was found an unruptured pregnancy, the ovum lying between the omentum above and the greatly dilated fimbriated end of the right tube below. There had been an escape of a small amount of blood into the peritoneal cavity. The absorption of some of the constituents of the escaped blood caused the slight jaundice.

The treatment is surgical. It is urgent. Delay may mean death for the patient. Blood

transfusion before or during operation, where there has been much hemorrhage, is of great help. Intravenous glucose and saline is helpful.

Immediate operation is indicated even if the patient be pulseless. Operation at this time is *not* contraindicated. Spinal anesthesia is the anesthesia of choice. The Trendelenburg position should be maintained from the time the patient is first seen until the blood pressure comes up again after operation.

SECONDARY ANEMIA

(C. S. Keefer, Boston and Chi-Shin Yang, Peiping, China, in *Arch. Internal Med.*, Oct.)

The recovery from anemia due to chronic loss of blood may be accelerated following the administration of liver and iron.

Anemia associated with infestation due to hookworm may be cured with iron, or liver and iron, while the patients continue to carry the worms. Malnutrition and faulty diets are important factors in predisposing such patients to anemia.

Women with the anemias of pregnancy recover following the transfusion of blood or following the administration of liver and iron. In some cases, iron alone is positive.

In some cases of anemia, liver and iron were more effective than when either one was given alone. In others, the maximum effect was observed following the use of iron.

Liver extract was of demonstrable value in some of the nutritional anemias of childhood, some of the anemias associated with pregnancy and in chronic dysentery. It was of little value in posthemorrhagic anemia.

If complete recovery is not observed in patients following the use of iron, liver should be added. In many patients who do not respond to liver or iron, there is usually an adequate cause to explain their failure. Infection and pathologic processes of the bone marrow are of the greatest importance.

OSLER NO GALEN IN ENGLAND

(James Collier, *British M. J.*, Sept. 19th)

The oozing of blood from vessels due to increased permeability of the walls, which has been put forward by Osler and many others to account for slowly oncoming subarachnoid and subdural haemorrhage, is a pathology which will have little appeal to those of us who know well how slowly blood may escape from a leaking aneurysm, and how minute and difficult to find such aneurysms may be. The cause of the majority of the cerebral aneurysms has not yet been determined with any certainty. They are never of syphilitic origin.

Clinical Physiology Notes

(From Halliburton & McDowall's *Physiology*, 1931)

The man who works hard requires no more meat than the man in the arm-chair. An engine called on to do more work does not necessarily want repair: what it needs is more fuel.

Weinland has shown (explanatory of why the stomach does not digest itself) that the gastric epithelium forms an *antipepsin* and the intestinal epithelium an *antitrypsin*.

The *gastric juice* is an antiseptic; the *pancreatic juice* is not.

The principal action of the *bile* is to assist the pancreatic juice, especially in the digestion of fat. It is doubtful if it has any antiseptic action.

The *blood coming from the liver*, where chemical changes are very active, is warmer than that of the general circulation.

Fever is primarily due to a diminished heat loss.

The *sensation of temperature* bears no relation to actual body temperature.

Yawning appears to be an effort on the part of the nervous system to correct the venosity of the blood.

The *first two hours* of sleep are always the most profound. The brain is never entirely irresponsive, and unless slumber is very profound, dreams are the subjective result of external stimuli.

Sensations of *sound* appear to be last to disappear as sleep comes on, and the first to be realized in awakening.

The *artificial sleep* of a deeply narcotised animal is no criterion of what occurs during normal sleep.

The anterior lobe of the *pituitary* is intimately connected with growth, while the pars intermedia is concerned with metabolism. Both parts appear to control the reproduction functions.

The evidence that the *thymus* has any internal secretion is very slender.

Myxedema gets its name from the suggestion of an *edema* due to *mucus*.

CONTRA-INDICATIONS FOR LAPAROTOMY

(W. J. Mallory, Washington, in *Virginia Medical Monthly*, Nov., 1931)

An observer found that abdominal operations were performed in 20 per cent. of cases in which symptoms were due to renal stone.

Presence of blood, pus, or sugar in the urine obviously demand further investigation before operation.

A high leucocyte count, above 18,000, or a peculiar differential count may point emphatically to non-surgical disease.

Blood sugar determinations may show that abdominal pain, nausea and vomiting are due to acidosis, either without or with abdominal surgical disease. A scybalous stool with mucus may indicate an acute attack of mucous colitis.

It is important to know and bear in mind that there are many non-surgical conditions which may masquerade as the so-called "acute surgical abdomen." Operation for these conditions is not only an error, humiliating to the physician, but it may jeopardize the life of the patient. It may be worth while to catalogue some of such conditions:

Intra-Thoracic Conditions

1. Pneumonia.
2. Acute pericarditis.
3. Mediastinal disease.
4. Coronary occlusion.
5. Angina pectoris.
6. Ruptured heart, first stage.
7. Pneumothorax, acute spontaneous.
8. Aneurysm with slow leakage.

Intra-Abdominal Conditions

1. Pyelitis.
2. Crises of sickle-cell anemia.
3. Nephrolithiasis.
4. Dietl's crisis.
5. Intestinal parasites.
6. Mucous colitis.

Miscellaneous

1. Meningitis.
2. Encephalitis, early.
3. Crises (tabetic).
4. Typhoid.
5. Typhus fever.
6. Referred pain of spinal origin.
7. Tonsillitis.
8. Herpes zoster.
9. Malarial fever with leucocytosis.
10. Lead colic.

I am no fanatic (Shaw, in *Irish Jour. Med Sc.*, June 1931) on the subject of spinal anesthesia: rather do I see in its future development the complete abrogation of the anesthetist. I do not think that we have yet found the perfect spinal anesthetic solution.

DEPARTMENTS

HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

PRO PATRIA

No other citizen of the community is looked upon by his neighbors as so unselfish, so dutiful, so loyal and dependable, so helpful to mankind in the mass and individually, so vitally useful and so absolutely necessary, as the physician. The cold, calculating business man, the disgruntled cynic, the general agnostic, the judge and the minister, the thief and the robber and the harlot, the young and the aged, the saint and the reprobate—all alike speak proudly of the curative skill of their doctor, and of his wonderful personality. Who would be so imprudent as to establish a habitation for a family in a region in which no doctor were available? What group would fare forth on an adventure without a medical advisor, mentally and materially equipped to deal with accident and with disease? Nay, where man is, singly or in aggregations, there must the physician be, also. He is the *sine qua non* of civilization. Where he is not, the hands of progress have been turned backwards thousands of years, and disease and death stalk unhindered and unafraid. Surely one physician may be pardoned for speaking thus of his own kind!

But the physician's days of professional usefulness are relatively few—twenty or thirty years, at most,—and then, whether he live, or whether he die, he is promptly forgot: he becomes as a tale that is told. Even the most undeserving politician, the most ruthless and piratical industrialist and financier, the reputation-seeking military volunteer, who has heard the whistle of the bullets for only a few moments, may occupy page after page in the solemn, historic biographies; but the doctor who has made his quiet and unostentatious daily rounds in warfare against disease and death ultimately dies, and is—forgot. And the youth, in looking down Life's broad and inviting avenues, would do well to avoid a medical career if he would be rich, or famous, or if he would have his mortal parts to lie under a mass of masonry in the city's busy thoroughfare. Such things be for the killers,

for the expounders from the rostrum, for the opulent; but not for the healers.

In *The Atlantic Monthly* for August of this year, T. Swann Harding makes complaint that Dr. Joseph Goldberger died a martyr to his sense of professional duty; died in the service of his country; and that both his memory and his bereft family have been relatively neglected by the people for whom he laboured. The charge is undoubtedly true. I think the title of the piece is misleading. "Another Jew without Money," would seem to attribute the country's neglect to the fact that Dr. Goldberger was a Jew and that he was, also, poor. Narrowly speaking, Dr. Goldberger was a Jew, and he was poor, but he was not sectarian or racial in his activities and in his sympathies, and within himself he must have had riches so infinite that not even a billionaire could have stood beside him undwarfed. Dr. Goldberger made important and life-saving contributions to the science of medicine. But the essayist seems to think that he was discriminated against because he was a Jew; foreign-born; because he was moneyless; because he lacked ponderous degrees; because some of the theories that he advanced were contrary to some of the accepted medical theories; and because he felt it to be his duty to antagonize some of the entrenched interests. The validity of each and all of these statements I doubt. Members of the Jewish race have risen to positions of great eminence and influence and usefulness here in these United States. Many of them have been handicapped by poverty in youth, and some of them have lacked liberal educations. Here in Richmond for many years the highly efficient health officer was a Jew, and one of our profession's most beloved was a blessed old Israelite; and in the North I know many Jewish doctors whose waiting-rooms are daily filled with non-Jewish patients. And the lack of a learned degree can not hold down permanently the intelligent, enthusiastic, persistent searcher after the ways of Truth, in medicine or out of it. I know, and so do most of you, a doctor in middle age whose only degree is that of doctor of medicine, yet his research work, carried

on throughout the years under his own stimulus and guidance, with meagre equipment, in a remote village, has made his work and his name familiar in every medical laboratory throughout the world. The sun rose, Chanticleer found out, to his amazement and embarrassment, whether he crowed and scratched up the ground or not.

Harding makes no reference to investigative work done by Dr. Goldberger outside his researches in pellagra. But in other fields Dr. Goldberger did important and illuminating work. Soon after he became an officer in the Public Health Service, in which he spent practically all his professional life, he was sent to Mexico to study typhus and yellow fever, and both of these diseases he contracted. In connection with the former, he made important discoveries. He made contributions, also, to our knowledge of diphtheria, certain parasitic diseases, and to cholera. But he gave more than ten years of devoted study to the problems connected with pellagra. He thought, undoubtedly, that he discovered the definite cause of that scourge. Many—most, perhaps—believed with him. Others doubt the soundness of his theory. Harding associates pellagra with the South alone. But the first patients suffering from this disease in the United States were observed in New York and in Massachusetts back in Civil War days.

Harding makes no mention at all of the doctors who did pioneer work in the study of pellagra in the United States. In 1907, Dr. George H. Searcy, Superintendent of the Insane Asylum at Tuscaloosa, Alabama, reported briefly in the *Journal of the American Medical Association* his own observations in what amounted to almost an epidemic of the malady in the asylum for colored people in that State. And Dr. Searcy had observed the condition since 1901. Soon afterwards Dr. James W. Babcock, Superintendent of the State Hospital at Columbia, South Carolina, became profoundly interested in pellagra, and, as a result of his zeal, the National Association for the Study of Pellagra was organized. Detailed knowledge of the disease was disseminated, and thousands of patients afflicted with it were brought under treatment. I find myself wondering if Harding has heard of these two worthy doctors, whose names are now seldom seen or heard. And

they looked upon pellagra as of dietetic origin. They believed, perhaps, that something present in the food, rather than absent from it, caused that disease. But Dr. Searcy observed that the best way to treat the condition was by supplying the patient with a generous diet. And no more than that do we know today. The last word about the cause of pellagra has probably not been spoken.

Mrs. Goldberger, so the essayist states, with her three children, continues to reside in Washington City, where she finds it difficult to live adequately upon the meagre pension given to her by the United States Government. Dr. Searcy, also, died, as did Dr. Babcock, and to the family of neither did the State or the Federal Government grant a pension. Yet each doctor gave most of the professional years of his long life to the care of the insane of his respective State, and I can easily believe that the salary of each was small.

Dr. Ennion G. Williams, of Richmond, lately died. He was not yet an old man, but for almost a generation he had been the health officer of the Commonwealth of Virginia. I have little doubt that he died poor—in money. There was never evidence that he thought of money for himself. The State has not pensioned his widow and his fatherless children, yet they make no complaint, for the dead doctor left them rich beyond measure in duty done for his fellowman. And in North Carolina for many years Dr. Watson S. Rankin in like manner gave himself freely to the people of the State. And his monetary reward must have been trifling. Yet it came into my ears from an authentic source that he once begged the State not to increase his small salary! In South Carolina Dr. James Adams Hayne, Commissioner of Health, is labouring daily in his efforts to make wholesome health possible for the people of his State, yet I can easily believe that his remuneration is small, and that no pension will be bestowed upon his dependents.

But the most worthy labourers in the vineyard of medicine are the family doctors, most of them obscure and generally unknown, who are quietly but courageously and patiently trying to bring comfort and healing to all who call upon them. Years ago I sat by the bedside of a grim old hero from whom a Yankee had clipped a leg in one of the battles near

Richmond in the sixties. On horseback, on foot, in a buggy, in good weather and in foul, he had carried his old wooden leg with him on his rounds of mercy, but only once in many years did he speak to me of the Civil War. He had done his duty on the field of battle, and he continued in the same way in the practice of medicine, and finally he died as calmly as Socrates. In a small town in eastern North Carolina I knew an elderly physician who ministered to all the folks, consequential and inconsequential, yet he never kept books nor sent out a bill. He raised a large family and educated his children.

Mrs. Goldberger may experience difficulty in educating her children—and in comfortably maintaining herself. But she and they can look back for inspiration to their father, a Jewish boy of six, stepping from the boat into New York City. His opportunities were few, his handicaps many, yet within the short period of fifty years he had placed his finger upon the cause of a great scourge, and the stricken became well, as if by magic. And now and henceforth Joseph Goldberger is one of medicine's immortals. But what if he had died obscurely, after his work was well done, and what if he had to lie in an unmarked grave? Would it not still be well?

I have heard that one of Woodrow Wilson's maternal uncles was a learned, but a quiet, retiring modest man, and that when his great-nephew heard of his uncle's death he wrote to a friend: "He followed duty to obscure places and kept himself in mere faithfulness from the eye of fame."

THE GIFT OF GOD

Many years ago an old clergyman, sick in mind at the time, told me that in his early ministry as he descended from his pulpit at the conclusion of the service on a bright May morning one of his friends came near and whispered into his ear that his first-born—a daughter—was lustily calling for him to come home to greet her. "Dorothea she shall be called—the gift of God", he reverently exclaimed, and so she was christened. I myself knew her after she had borne the name into mature womanhood, and she proved to be the gift of God, indeed, to her parents and to all others who knew her.

Soon after the birth of the little Dorothea in a town in North Carolina, the Reverent Dr. Nicholas, of Maine, wrote to Dr. Tuke, of England: "Thus has died and been laid to rest, in the most quiet, unostentatious way the most useful and distinguished woman America has yet produced." That was in 1887, just after Dorothea Lynde Dix had been buried in a cemetery in Boston. Her passing into final rest, at the age of eighty-five, caused little comment, and most of the people in our country today probably never heard of this remarkable woman. I am glad that the *Mental Hygiene Bulletin* for September reviews her life and her achievements.

At the age of ten years she left her home in Maine, in which she had been denied the natural happiness of childhood by a curious and tyrannical father, to go to her grandmother in Boston. There she got some schooling, and before she had reached the age of twenty she had established in Boston a school for girls which became locally famous. She taught, wrote many essays, tracts, and stories for children. After a few years she became tuberculous, and had to give up her work. But eventually she returned to teaching. Early in 1840 she went on Sunday to teach a class in a house of correction for women in Boston. She was shocked by the filth and squalor and all the other evidences of degradation in the prison. The insane and the criminals were all commingled in an unheated and unfurnished large room in mid-winter. The soul of Dorothea Dix was distressed and shocked. Through influential friends she appealed to the authorities for a betterment of conditions. Improvements were made. Straightway she undertook throughout the entire State of Massachusetts what would today be called a complete survey of the prisons, houses of correction, almshouses, and the conditions under which many of the insane were living in private homes, in barns, in outhouses, and in caves. The report of her findings constituted a memorial to the legislature. The immediate result was the enlargement of the State's only asylum—at Worcester. Her careful investigation had covered a period of two years. Then she crossed over into Rhode Island, and her work in that State so awakened the public conscience that a wealthy citizen made a large contribution for the enlargement of the

State's only mental hospital. Since that day the hospital has come to be known by the name of the generous donor, Cyrus Butler,—the Butler Hospital, at Providence. In the State of New Jersey the insane were neither treated nor even cared for at all. At Trenton, Dorothea Dix made her first appeal to a legislature for an appropriation by the State for the care of the insane. In response to her supplication, the State Hospital at Trenton came into existence. Always thereafter she referred to that institution as her "first-born child". She continued her investigations in State after State, in penitentiaries, in jails, in almshouses, in hovels; and everywhere she found the insane utterly neglected, or cursed and tormented, and brutally treated. Within two or three years after the beginning of her mission she could testify that she had actually visited more than 10,000 lunatics and idiots and epileptics in all portions of the country, and that most of them were treated more inhumanely than the wild beasts of the fields.

She kept steadily at her work until the outbreak of the Civil War. In 1800 the only asylum for the insane in the United States was the institution at Williamsburg, in Virginia—now known as the Eastern State Hospital. It had been established by the Colonial Government in 1767. In 1840 there were only seven or eight asylums in the United States. But by means of her persistent, and thorough investigative work in State after State, and through her direct appeals to State legislatures, Dorothea Dix was responsible for the erection of thirty-odd hospitals for the treatment of mental patients. Her memorial to the General Assembly of North Carolina resulted in the great institution on Dix Hill in Raleigh. But she made no appeals in person. In Raleigh, I believe, she prevailed upon a distinguished citizen, a former Secretary of the Navy, whose ill wife she tenderly nursed, to present her cause to the legislators, and elsewhere her prayers were voiced by her own pen and by influential citizens whom she had moved by her earnest and humane reasonableness.

She is undoubtedly the founder of the mental hygiene movement in the United States. Her mightiest work was done, not in bringing about the construction of great hospitals, but in the domain of the invisible and the impalpable. She it was who first fetched

mental disease in this country into the domain of medicine. Prior to her day the insane were looked upon as those either cursed by God or debauched and debased by their own depravity.

Within a week after the opening of the Civil War she was in Washington as a volunteer nurse. A commission placed her in charge of all the nursing done by women in the Federal armies throughout that conflict. At the conclusion of hostilities she resumed her activities in behalf of the mentally unsound. In spite of a frail physique and a tuberculous infection and an innate shyness, she laboured until her eightieth year. At last she was induced to come into quarters specially set aside for her in the Asylum at Trenton—"her first-born child", and there she must have viewed in retrospect, with comforting satisfaction, her adventurous and useful life.

School teacher, America's first apostle to the insane, Army nurse—what a trinity of achievements—what a bold, adventurous, toilsome life for a frail, consumptive, Puritanical, New England woman! She remains to this day America's greatest philanthropist. Others have given of their substance. She gave her life. Dorothea, the gift of God, became the philanthropist, the lover of mankind. The husbandless and childless woman made the insane her children. The hundreds of thousands in the United States who have recovered from mental sickness should erect in Washington a tribute to her memory and a testimonial to her medical prophecy. Insanity is only another form of sickness. Her labour and her influence brought about the final acceptance of that diagnosis.

SHIMEI SPEAKS AGAIN

More than three thousand years ago, perhaps, Shimei, the Benjaminite, and a member of the dethroned house of Saul, trudged along the rocky hillside, and, as he walked, he cursed David, mighty King of Israel, and threw upon him rocks and dust. One of the henchmen of David sought royal permission to slay Shimei and to cut off the dead dog's head. But David neither rebuked Shimei himself nor permitted the member of his staff to raise a hand in protest. On the contrary, David said that Shimei was undoubtedly doing the Lord's bidding in cursing him, and that he deserved all the bad things Shimei

was saying so boldly and so publicly about him.

Four or five hundred years after David and Shimei had become transformed into dust, Socrates in Athens often told his friends that his conduct was influenced by The Voice; twenty-five hundreds years later an almost naked Indian ascetic on an official visit to London was giving heed to the whisperings of The Voice in his ears; for the past two or three years in southwest Virginia The Voice has been the constant, chiding companion of William Perry Crowgey, who is, at last, emerging from a period of depression so terrible that his life during that time was spent within the confines of hell. During a portion of his wretchedness he was with me, and together we wrestled with his adversary. I could observe his suffering, but no one who has not experienced such agony can appreciate the intensity of the suffering.

Crowgey was a young man of thirty-odd, an energetic and successful and happy farmer, who had established in a fertile valley a comfortable home for his wife and little children. To a neighbor he sold a portion of his farm for a good price—for entirely too much, he afterwards concluded. Later he sold the remainder of his farm, and that transaction made his family homeless. Immediately regret and self-reproach settled upon him. He had done the wrong thing. He could not repossess the farm nor could he live in happiness away from it. He became gloomy, restless, sleepless, unable to work, and he denounced himself for making his family homeless and unhappy. His past slowly unfolded itself before him. The conclusion was inescapable that he had always been a hypocrite and a Pharisee. Even while he was active in church work he was busy in cheating friends and neighbors,—one in a land deal; another in a horse trade; another in a cow trade; a railroad in a damage claim, and another corporation by an excessive demand. But the curious thing is that while Crowgey was engaged in all this devilment, as he said,—robbing his fellowman on week-days and worshipping his God devoutly on Sunday—he was both prosperous and happy.

He realizes now that he has been depressed and that the depression had become profound and had lasted for a long time before he discovered what he came to look upon as the cause of it. He had sinned, and he

was being punished for his sins—that was the meaning to himself of his mental sickness. After he had suffered for months and months The Voice spoke to him. There was no hope for him save through confession of his sins and through restitution to those whom he had cheated. Only a brave, truth-loving man can publicly confess his sins, and only a courageous man can openly make an effort to right the wrongs he has done to his fellowman. Crowgey did both. He went either in person or by letter to each of those whom he had wronged, told what he had done, and begged to be permitted to right each wrong. The Voice was guiding and counselling him. Fortunately, he received only sympathy and helpfulness. No one laughed at him; no one told him he was either crazy or a fool.

Job wished that his adversary had written a book. But Crowgey wrote a book—an autopsycho-biography. In the volume—which he calls *Two Voices*—he evidently makes an honest effort to turn himself mentally and morally wrong side out and to reveal his life to the world as he thinks he has lived it. But did he do that? Who knows? What mortal can know what degree of unconscious repression he is exercising at any moment? Without help or instruction, and even with these aids, how self-revealing can one actually be?

All history is relatively worthless, because the historian knows little about the inner lives of those about whom he writes. All autobiographies are even more worthless. The individual knows little about his own psyche and he is inhibited by the repressive censor from recording his life frankly and fully.

David was a good autobiographer. Not infrequently, perhaps, he lied, and his behavior was often that of a reprobate, but his conscience did not go to sleep and he was always manly enough eventually to confess his wrong-doing and courageous enough to begin life anew. His humanness and his innate manliness constantly commend him to us.

William Perry Crowgey has written simply but powerfully. I am profoundly impressed by the sincerity of the account of his own struggle with himself. For many months he was intensely suicidal and almost daily he struggled to prevent himself from bringing his own life to a tragic termination. The

volume does not constitute pleasant summer, fall, or winter reading, but it invites a detailed inspection of a soul in distress. The quotations, gathered from a wide field, add weight and dignity to the biographer's own statements.

Finally,—is a layman, is a physician, is any mortal, competent to be his own diagnostician and his own therapist? The wise physician does not place himself recumbent upon his own examination table, nor does he chemicalize or otherwise medicate himself. But Crowgey did not, at first, do that. He went straightway to a physician, and so long as he could be remained under medical care. As he was convalescing he discovered the cause of his sickness, so he thought, and his own prescription, he believes, made him well again.

But the volume emphasizes certain facts which ought to become known. Sickness of the mind, or of the emotions, often causes, also, sickness of the entire body. The necessity of a considerable degree of repression is one of the penalties of civilization, but, individually, unacceptable repression is one of the chief causes of mental disorders. A human being can wound and leave cicatrized his mind more easily but more terribly than he can traumatize his physical body. Mental or emotional or spiritual scars are not easily removed. They often become keloids. The individual commits suicide only when it becomes impossible for him longer to live with himself. The most valuable asset and the most genial companion is—a good conscience. The best therapy for those disturbed in mind and distressed in spirit is Truth. No other medication offers them freedom. One of the purposes of psychoanalysis is the revelation of the individual to himself. Without honesty with one's self there can be neither health nor happiness.

Mental and emotional well-being are not necessary accompaniments of robust bodily health, but they are more important than sound physical health. Most health departments ignore the existence of the mind and the emotions. The present materialistic age glorifies the importance of matter—within and without the physical being. But—as a man thinketh, or feelth, so is he.

The mental hygiene movement is trying to demonstrate that fact, but not to Crowgey. He knows it.

PROGRESS IN PSYCHIATRY

(I. H. Coriat, in *New Eng. Jl. Medicine*, Oct. 22nd)

It was shown that there is a close relationship between the incidence of finger-nail biting and the various periods of psychosexual development. It seems that this so-called habit is a manifestation of regressive tendencies, that is, a means of oral erotic gratification and thus it may be interpreted as a continuance of the infantile thumb-sucking habit.

HYPERTENSION

(David Reisman, Phila., in *Journal A. M. A.*, Oct. 31st)

Classification of hypertension as continuous, remittent, intermittent and pernicious in analogy with the classification of fever is interesting and clinically useful; the ideal classification is, however, one based on etiology. But for that it will be necessary, I fear, to wait a long time.

It is important always to take the diastolic pressure. Those whose diastolic pressure is high are in greater danger than those in whom it is low. There is no drug that cures hypertension. The best treatment is psychotherapeutic. To take the load off the patient's mind by assuring him that hypertension is not synonymous with immediate or early death does more than all the drugs in the pharmacopeias. The physician must enter into every detail of the patient's activities, mental and physical, and he must so shape them that the patient keeps within his limits. That type of handling requires time, patience and understanding, but I believe there will be plenty of reward for it.

A ROMAN OCULIST'S STAMP UNEARTHED NEAR LONDON BRIDGE

In the *Daily Telegraph* for July 31, 1931, is an account of another of these interesting fragments of antiquity found recently near London Bridge, at a depth of 15 feet below the surface. The stamp is of the usual size, the oculist's name was Caius Silvius Tetricus and three of his formulae run according to the common form of such things. The inscription on the fourth side is indecipherable. In the same issue is noted the fact that in 1929 a small pot of red Samian ware was discovered in Moorgate marked with the words, "Lucius Julius Senlis's saffron salve for roughness of the eyelids."—*British Jl. Ophthalm.*, Oct.

The abnormal rhythm (LUTEN, in *Minnesota Medicine*, October) itself is rarely dangerous; it is frequently annoying. In most instances a complete history is more important than a complete cardiac examination.

"Vrillat-Savarin, the famous chef de cuisine, who knew quite a great deal about the various properties of foods as well as how to prepare them, said this of the truffle: 'The truffle is a positive aphrodisiac. It makes women more amiable and men more amorous.'"—*Urol. & Cut. Rev.*, Oct.

NEUROLOGY

OLIN B. CHAMBERLAIN, M.D., *Editor*
Charleston, S. C.

ATYPICAL ENCEPHALITIS

During the past few months encephalitis of the lethargic type has not been encountered as commonly as during the past few years. This is in keeping, I think, with the experience encountered over the world in general. It is the writer's impression that encephalitis continued to be more prevalent in the South during the years 1928, 1929 and 1930 than in the northern clinics. I believe Foster Kennedy of New York is quoted as saying in 1930 that he had seen very few genuine cases of encephalitis since about 1928. In Charleston in 1929 and 1930 there were a number of cases which clinically and according to postmortem findings conformed to classical description of lethargic encephalitis. They were mainly of the hyperkinetic type and might be described as choreiform in general appearance. For the past six months we have seen few clear-cut cases in the Charleston clinics. However, there have been some vague and transitory disorders which are hard to classify under any other heading but that of abortive or non-typical cases of encephalitis. Two have been recently seen in Charleston which might be described.

Case 1

A white man of 58, previously healthy and robust and with no cardiovascular findings of importance, was taken suddenly ill. He had been seated in his automobile and, although he had complained of not feeling especially well that morning, nothing indicated that he was suffering from any marked infection. His wife left him in the automobile for sometime and when she returned found him highly irritable and complaining of headache and fever. From then on he had fever and was slightly confused. It was thought that he had either malaria or typhoid. In the course of about three days he was brought to Charleston and placed in a hospital. When seen by the writer he was stuporous but could be aroused for short periods; he was entirely disoriented. There was no apparent paralysis of the extremities and no involvement of the cranial nerves. Spinal puncture showed sixteen cells mostly lymphocytes with an increase in globulin. All other laboratory findings were negative. He remained in this semi-stuporous condition for several days and gradually recovered. As he became more conscious he complained bitterly of headache. The improvement continued and in about three weeks of the time of the onset of the serious symptoms he had

apparently cleared up entirely. There were no residual symptoms remaining except weakness. He remembered very little of what had happened during the acute stage of his illness. The absence of the finding of cardiovascular or kidney pathology and the location of the apparent inflammatory reaction in the cerebrum would make the diagnosis of encephalitis most likely. It is, of course, apparent that the condition is far from the typical one and could be considered only as an abortive or unusual type of encephalitis.

Case 2

A young woman was taken ill on a coastwise steamer just before landing in New York. Her symptoms were entirely gastro-intestinal; she was nauseated and felt very weak; she had fever. A physician diagnosed her condition as gastro-enteritis. She returned to Charleston by train after having been ill in New York about a week. Shortly after returning to her home she began to have severe headaches and repeated convulsions. These convulsions were typical and could not by any stretch of imagination be considered hysterical. Between convulsions she was conscious and complained only of headaches. There was at times some subjective blurring of the vision in one eye but no diplopia or other signs of cranial nerve involvement. Spinal puncture gave a clear fluid with only six cells and with three-plus sugar. All her other findings were entirely negative. In a few days the convulsions ceased and she now is practically well except that she feels somewhat drowsy and complains of unpleasant dreams while sleeping.

Neither of these cases conforms to any very classical picture. The reader may see several possibilities in both cases and particularly in the latter. They are not sufficiently described in this paper to allow the reader to feel that the diagnosis has been exhaustively worked out. In both cases, however, much more work was done than has been touched upon in this short outline and many diagnoses considered. The purpose of presenting these cases was rather to indicate that there are probably present most unusual bizarre and transitory types of cerebral infection which may represent the aftermath of the late epidemic of encephalitis. It is well, I think, that all of us engaged in active practice keep our eyes open for cases of like nature.

We (J. MEAKINS & W. DEM. SCRIVER, Montreal, in *Can. Med. Assn. J.*, Sept.) believe that the results with intramuscular injection of ergotamine and with acetylcholine indicate that there may be a place for these drugs in the treatment of essential hypertension.

SURGERY

GEO. H. BUNCH, M.D., *Editor*, Columbia, S. C.

HEMORRHAGE IN THE NEW BORN

Blood transfusion tends to restore both blood quantity and quality to normal. The clotting time is lessened; the hemoglobin is increased; the blood-making organs are stimulated. Although we have gone a long way in the perfection of the technique of transfusion, we shall briefly consider some of the problems peculiar to the new born.

A tendency to bleed is not rare in the new born and much has been written about how to overcome it. The pediatrician is primarily interested in blood dyscrasias, but both the family doctor and the surgeon are interested in how to stop persistent bleeding from the navel. Neither pressure nor styptics are effective. Often horse serum given subcutaneously, perhaps as diphtheria antitoxin, will restore the clotting power of the blood. More often human blood injected into the muscle will avail. It is not necessary that the blood be typed.

The injection of blood into the peritoneal cavity is practiced by some pediatricians who claim to get the same benefits from it as from intravenous blood transfusion. From the good results of Blackfan and Maxcy in 1918 after the intraperitoneal injection of normal salt solution, Dipestein and Sansby (*Am. J. Dis. of Children*) in 1923 were induced to inject citrated blood into the peritoneum. They report the blood as being rapidly and completely taken into the blood stream without change, being in effect a true blood transfusion. Opitz and Metis in 1924, in experiments on animals, found the blood absorbed from the peritoneal cavity in varying times. Floyd (*Am. J. Dis. of Children*, 1928) thinks the red blood cells find their way into the blood stream within a short time, although he says others think the fluid portion of the blood is absorbed first and the corpuscles later. Because of its ease, convenience and simplicity he prefers the intraperitoneal to the intravenous method of administration.

Cole and Montgomery of the Children's Clinic, Detroit (*Am. J. Dis. of Children*, March, 1929) report 237 intraperitoneal transfusions in 117 patients, 15 of which

were in the new born. Although the blood was typed they had moderate reactions in less than 7 per cent. There was no injury to the abdominal viscera. Three out of 20 patients who died came to autopsy. Of these only one had blood in the peritoneal cavity and that one was dying when being transfused. They conclude, "Intraperitoneal has all the advantages of intravenous transfusion, except the replacement of blood volume."

In typing for intravenous transfusion it is of interest to know that, according to Abt, blood cells of most children under six months cannot be agglutinated and their serum cannot agglutinate a donor's cells. "For such children any donor regardless of group is compatible. It is superfluous to attempt a grouping of an infant's blood. One should rather test the blood directly against that of the prospective donor." This explains the erroneous belief that any mother may be used as a donor for her new born infant. The mother is not a safe donor until her blood has been tested against the baby's. Sidbury of Wilmington advises giving the blood into the umbilical vein.

Recently a 5-pound infant was born in the S. C. Baptist Hospital from an eclamptic mother. On the 7th day the child began to bleed from the navel. On 3 successive days 20 c.c. of whole blood were injected into the muscles without effect. On the 12th day 4 ounces of whole blood were injected into the peritoneal cavity. Next day the child had a purpuric eruption. The oozing continued. The pallor increased as the patient became progressively weaker. On the 14th day 3 ounces of unmodified blood were injected directly into the longitudinal sinus through the anterior fontanelle. The child became immediately pink with good pulse and increased strength. The bleeding stopped within an hour and never recurred. The patient is now a normal child for its age.

Blood given into the peritoneal cavity is not a true transfusion. In this infant it was without obvious advantage. In adults, it must be practically worthless, for if free blood in the peritoneal cavity so soon becomes circulating blood it is of no advantage to give intravenous transfusion of blood for the massive internal hemorrhage of ruptured ectopic pregnancy or for the repeated internal hem-

orrhages of tubal abortion. At laparotomy when the bleeding has been controlled we remove by suction or sponging free blood from the peritoneal cavity even when we know the blood is sterile. We think the patient is better off without it.

TREATMENT OF SPRAINED ANKLES

(W. E. Tucker, in *The Lancet* (London), Oct. 17th)

It is essential to estimate (1) the severity of the sprain, from physical signs and symptoms, and (2) the amount of exercise carried out after the sprain took place, from the history. This last factor is important, since damaged structures have been used and will therefore take longer to recover.

1. Radiograph all sprains except mild ones.

2. Rest the damaged structures. If fracture of either malleolus has occurred the limb must be kept at rest for a longer period. If there is no bony lesion, endeavor to learn which ligaments and muscles are damaged and strap or bandage the foot in such a position that these are at rest.

3. Strap or bandage so that the foot is dorsiflexed to a right angle—a most important point, on account of the risk of shortening of the *tendo Achillis* from faulty position, and adhesions, from the products of effusion gravitating posteriorly.

4. In bad sprains give some form of analgesic and hypnotic for at least the first night.

5. When passive movements are started, remember to put these joints, also through their full range of movements.

6. After a sprained ankle, there is a tendency for the foot to become flat and painful, especially if strapped in an everted position. In order to prevent this, encourage the patient to do feet exercises to strengthen the muscles; an inside wedge or valgus support may be necessary while carrying these out.

Warn the patient that it may be three to six weeks before the ankle is normal.

Moderate Degree — (1) Ankle firmly strapped, walking allowed if not painful. (2) Massage and radiant heat applied over the strapping; active movement. (3) Strapping is removed on the fourth day, and if the ankle seems sufficiently recovered—as shown by absence of pain on full passive movement—support by an elastic bandage until it feels to the patient completely recovered. (4) Advise feet exercises to prevent recurrence, and also to guard against a painful flat-foot.

Severe Degrees—(1) Confine to bed for a week if possible. (2) Firm pressure with bandages over lint soaked in some evaporating lotion—e.g., liquor hamamelis 1 in 6, or lotio plumbi cum opio. Swelling and edema invariably occur and the patient suffers agony if strapped. Firm bandaging over lint soaked in an evaporating lotion maintains the foot in correct position, rests the injured structures, and keeps the swelling from becoming excessive. (3)

Next day the ankle is massaged gently, heat is applied, and active movements, without producing pain, are encouraged. Continue this treatment at least once each day, as it will help the absorption of effusion and hemorrhage; a further range of movements should be obtained on each occasion. If available, diathermy through the ankle and surging faradism to the muscle will help to absorb deep-seated effusion quicker than any other form of treatment. (4) At the end of the week allow the patient up with the foot supported either by strapping, a firm bandage, or an elastic anklet. Massage and physiotherapy are continued to full active movements without pain. The patient should carry out exercises.

Severe Degree with Fracture.—The same treatment as for the last group is applied, except that the patient is confined to bed for 10 days; movements started the 7th day; and the patient, when allowed up, must have his foot firmly strapped for at least three weeks.

I now suggest an *alternative method* for the last two degrees of sprain, which is applicable to patients unable to rest for longer than two or three days. The foot is firmly strapped so that damaged structures are well supported and the range of movement limited to a minimum. The patient is advised not to place the foot on the ground, but to use a crutch or a stout walking stick. If possible, each day the ankle is given massage and physiotherapy treatment, as indicated before, over the strapping, but if this is out of the question the foot is left strapped for three weeks, after which time the strapping is removed and massage and physiotherapy are started. If the foot is left strapped for three weeks, strong adhesions may have formed, which would necessitate a manipulation of the foot under an anesthetic before massage and physiotherapy is commenced.

This class of sprain seen within the first month, massage, movements and physiotherapy is the best treatment, with the ankle supported in the correct position. Seen after the first month, the quickest method to obtain a supple, painless foot is to manipulate it through its full range of movements under an anesthetic, in order to break down adhesions, following up with massage and physiotherapy. Exceptions are those cases where a damaged ligament or muscle is stretched, as proved by tenderness over it, without limitation of movement; in which case the structure is put in a position of rest, by strapping the foot, and measures are taken to strengthen the muscles.

Those cases in which a slight sprain occurred one to three weeks previously, and suddenly, usually after exercise, there is pain under the scaphoid, due to stretching of the ligaments and a tendency for the foot to become flat. Manipulation, followed by massage and movements, will break down adhesions and help to restore the tone of the muscles. The

patient should do exercises and a valgus support may be necessary for a short time.

Those cases in which the ankle is continually twisting. The object here is to strengthen the muscles especially the peronei, best by surging faradism to the muscles and appropriate exercises—contracting the muscles against obstruction, *e. g.*, attempting to evert the foot against a wall.

In cases in older people, and who develop traumatic osteoarthritis, treatment comes under: (1) Heat, massage, diathermy. (2) Valgus support, either raising the inner side of the shoe or an aluminum support. Undoubtedly some of these methods are open to criticism, but if they are carried out, sprained ankles would not develop, the painful complications—such as teno-synovitis, a painful rigid foot from adhesions, or osteoarthritis—which help bone-setters and osteopaths to thrive.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D., *Editor*
Charlotte and Gastonia, N. C.

ORTHOPEDIC CLINICS IN TORONTO

From October 1st to 3rd the Orthopedic Surgeons of Toronto entertained the Robert Jones and Eastern States Orthopedic Clubs. Both operative and dry clinics were held.

During the first morning Dr. Farmer showed a series of cases of osteomyelitis of the hip joint in which destruction of the head of the femur occurred slowly without drainage. From one hip biopsied the colon bacillus was recovered and from another *Staphylococcus aureus*. The undecided question is whether these joints do better with or without surgical drainage.

Dr. Tisdall, working in the research department of Pediatrics in the University of Toronto, lectured on the value of vitamin *D*, and the disturbance of growth in the absence of this element. He feels that the population of the more northern sections of the country are becoming seriously handicapped physically from lack of sunshine, or vitamin *D* in some form as a substitute. The community of Toronto counts on three months sunshine in the year. Dr. Tisdall is working on a plan to incorporate ergosterol in ordinary baker's bread as a means of supplying the population with its need of vitamin *D*. Prof. Kay lectured on the function of the enzyme, phosphatase, and its relation to bone growth and calcium deposition.

Other cases shown and discussed the first morning of the clinic were: Volkman's ischemic paralysis treated by transferring

downward the origin of the forearm muscles arising from the inner condyle of the humerus (Page operation). Sprengel's deformity of the scapula corrected by Shrock's operation. Paget's disease, and slipping epiphyses. Dr. Gallie showed some excellent results following his operation for tenodesis of the heel cord to the posterior surface of the tibia in the treatment of paralytic calcaneus. He stated that the operation was not generally practiced now but that after age 15 it was a very useful procedure associated with a foot stabilization operation. In the Hospital for Sick Children tuberculous hips are fused and bone from the tibia is used to unite the trochanter to the roof of the acetabulum and side of the ilium. In spine fusions a modified Hibbs' operation is practiced. Osteo-periosteal grafts are taken from the tibia to re-enforce the spine grafts in the field of operation.

Much work, experimental and otherwise, is being done with cervical and lumbar sympathectomy. In addition to the ordinary application of this operation to circulatory diseases of the extremities, Dr. R. T. Harris is conducting experiments and showed some cases of stimulation of body heat and growth in limbs crippled from infantile paralysis. He has been able to recover from one to two inches in length in limbs over a period of two years.

One demonstration of particular interest in the clinic was the use of small peg bone grafts in the treatment of ununited fracture of the carpal scaphoid.

A young Russian doctor (feminine) gave an interesting dissertation on her research work in culturing the tubercle bacilli on media containing silica. It appears that she may be able to offer a method of comparatively rapid growth of cultures of the tubercle bacilli. Some specimens of media were shown with a growth of the organisms in three weeks.

As you know Toronto was the early home of Osler. His influence and that of other leaders is evident in the Medical Libraries, the University Medical School and the hospitals of Toronto. Culture and studiousness are apparent.

Write the Dept. of Agriculture, Washington, for *Farmers Bulletin* 920, and the Dept. of Labor for *Publication* 163, to learn how to help many needy families provide themselves with rich milk at a cheap rate.

GYNECOLOGY

CHAS. R. ROBINS, M.D., *Editor*, Richmond, Va.

ON THE CAUSE OF BACKACHE IN WOMEN

Misapprehensions as to this subject are apparently quite common in the profession. A very valuable, illuminating and convincing article entitled *Gynepathic Backache*, by Arnold Sturmdorf of New York, has appeared recently (*S. G. & O.*, August, 1931). This is a continuation of his previous discussion of this subject. Those interested should read the article. It opens with this statement, "In the entire range of subjective gynepathic manifestations, backache is one of the most familiar and least understood as to its nature, its direct cause and the mechanism of its production." He makes quotations from various recent gynecological publications which show the frequency of backache in women and then says: "The prevalence of backache in gynepathic conditions has so habituated us to their concurrence that a direct relationship of a condition and a symptom is tacitly accepted without further investigation as to the how and why the one produces the other." He then states that the relationship of cause and effect is largely conjectural and has never been scientifically proven. He then comments on a statistical study of 721 cases of backache from the Woman's Hospital of New York by Bullard. According to this report there were 125 cases; 47 adherent retrodisplacements, 20 mobile retroversions, 20 prolapse, 9 procidentia and 29 complex cases, not one of which complained of backache. It also states that in 15 cases out of every hundred the backache persisted after otherwise successful correction of gynepathic conditions. "These quotations from the current literature will suffice to reveal: (1) the majority of gynepathic patients suffer from backache; (2) a lesser number, presenting identical lesions, do not suffer from backache; (3) an appreciable number are not relieved of their backache by apparently successful corrections. What the literature does not reveal is: how the backache is produced in the first class; what particular factor determines its absence in the second; and, finally, why apparently successful corrections fail to relieve the third class. "How many gynecologists direct even a single glance of superficial inspection to the aching back of a gynepathic patient until its postoperative persist-

ance impels a closer search for its cause."

Sturmdorf then gives the result of his investigations and states: "Primarily, a gynepathic backache is essentially an intermittent attitudinal spastic backache, characteristically located at the sacrolumbar articulation, involving the lower erector spinae and upper iliopsoas muscle segments which control the mobility of the sacroiliac articulation. This spasticity is a reflex protective immobilizing phenomenon." He then refers to the test of the mild galvanic current, which increases the spasm and pain. The flexibility of the spine is discussed, the effort to protect the pelvic contents by tilting the pelvis and the fact that the strain on the muscles is the cause of the pain is clearly brought out. The article is so full of meat that it is difficult to abstract. It emphasizes again the principles of dynamics that are involved in gynecology and gives understanding to a field of symptoms that to say the least are not generally understood.

A STUDY OF 523 CASES OF OBESITY

(D. M. Dunlop and R. Murray Lyon, *Edinburgh, in Edinburgh Medical Journal*, Oct., 1931)

The most important dietetic error in overweight persons is an excessive carbohydrate intake. The degree of obesity is largely determined during the first few years of the condition.

Contrary to expectation 59.7 per cent. of the patients claimed to be of an excitable disposition, and only 10.4 per cent phlegmatic. An average loss of weight in out-patients of 1.9 lb. per week was obtained by dietetic treatment alone. On discontinuing treatment there is a tendency for weight to be slowly regained. This can usually be avoided by only a slight modification of a normal diet.

Gonococci can often be demonstrated by cultivation in the secretion from the prostate and seminal vesicles when they can not be demonstrated microscopically.

Complement fixation is of no value in acute gonorrhea. Its chief practical use is in complications of gonorrhea, where it is of great value in differential diagnosis from tuberculosis and ordinary infections.—*Venereal Dis. Information*, U. S. P. H. S., Sept.

Some people like to know beforehand what an operation or a course of treatment is going to cost and it is an attitude to be commended and encouraged.—W. H. Robey, *N. E. J. Med.*

The pituitary is the endocrine organ which influences more functions than any other.

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

THE GLANDS OF INTERNAL SECRETION IN PREGNANCY

All along through the years record has been made of facts about pregnancy which have assisted greatly in its management, and now our knowledge warrants us in saying that if this knowledge were properly used by the physician and his patient and her immediate family we could guarantee safety in almost 100 cases out of 100 as to the mother, and at least 95 well developed babies. Of course, the masses of the human race do not have adequate opportunity to get this knowledge and use it. Too, a majority of physicians look upon pregnancy as a normal physiological process and therefore choose to go along as usual, not putting forth much effort to impart to the laity the importance of proper care of the patient herself and the proper observation from the standpoint of the physician. The common idea is still well in practice that the only time the patient needs a doctor is when she goes in labor. Also, due to this practice there is too much invalidism which can be charged directly to improper care of the patient during the whole period of pregnancy and the first six weeks following delivery.

In this connection we firmly believe that the internal secretory glands have been overlooked by the physician, the physician thinking that all that is necessary is for the neurologist and diagnostician to worry their minds about these glands, and he himself may go along and wait until certain facts and principles have been observed and recorded which he can use in his practice. Someone has estimated that in the United States we have annually around two million abortions. Some of these abortions, of course, are induced deliberately; others by operation or by use of drugs; many of them occur spontaneously, and why? Though we are not able to establish these statements, we are inclined to believe that the internal secretory glands are having something to do with these spontaneous abortions. The profession, we believe, could well afford to study the symptoms of the patients in these cases, contrasting these with patients who do not abort; seeing if there is any difference in the symptoms of the patients who abort and those who do not. It may be that

we will find that the pituitary body in many of these cases is too active, along with the thyroid and the adrenal glands and the ovaries, and that there is put into circulation too much pituitary secretion which causes the patient to expel the products of gestation prematurely. Many such happenings occur anywhere from six weeks to six months. One pregnancy after another will abort anywhere from two to three months. These patients were exceedingly anxious to have babies. From a thorough study of the mechanical condition of the vagina and the uterus in these cases there is apparently nothing in this region which explains premature termination of these pregnancies.

If this condition is due to an over-secretion of the internal glands, as we believe it is, then it seems to us that here is a big field for personal and coöperative investigation among physicians to find out why these patients have such disappointing experiences.

There is another group of patients which do not abort, but are threatened many times during the period of pregnancy. They are put to bed, their activities limited, a simple modified diet and sedatives are used, and these patients finally, after a more or less nerve-racking experience, reach the end of pregnancy with a live baby. After this experience many of these patients find themselves more or less nervous, very excitable, and they say they are not like they were before, even though they have been cared for in the best possible manner; some of them blame the physician for their physical state. The patient nor the physician should be blamed. We believe it is the internal secretory glands that are producing metabolic disturbances in the body, thereby creating within the patient herself disturbances which cannot be satisfactorily explained to the patient, and the physician is at a loss to say what the causes are producing such an unsatisfactory condition. We again believe that possibly the thyroid gland, along with the pituitary body and the ovaries, will be found liable.

We raise this whole big question, not with the idea of offering any solution, but simply make a suggestion that the men who happen to be looking after pregnant women study most accurately and carefully each patient, keeping in mind these glands within the body which dominate the physical and mental processes of the patient.

THERAPEUTICS

FREDERICK R. TAYLOR, M.D., *Editor*
High Point, N. C.

PELLAGRA

The October number of this journal carries an extraordinarily interesting and strangely intriguing article advocating a new hypothesis of the etiology of pellagra and a simple practical treatment based on that hypothesis. The present editorial is in the nature of a discussion of that article. In 1929 we made a rather intensive study of the subject of pellagra in response to the request of Dr. Henry A. Christian that we revise Dr. E. J. Wood's chapter on that topic in the *Oxford Loose-leaf Medicine*. We have also kept clippings of everything of interest on pellagra that has come to our notice since.

In our work of revision, we went to a number of original sources, and quoted from a certain source somewhat *in extenso*—this quotation, however, having come through Lavinder of the U. S. P. H. S. The quotation is from Belmondo, cited by Lavinder, and is given under the heading "The Final Stages of Pellagra." I repeat only a part of the quotation here—that part which seems to have a possible bearing on Dr. Miller's paper.

"The entire musculature is in a very pronounced state of tonic contraction, and there is marked rigidity evident on making passive movements of the extremities. In these manifestations the reflex rigidity increases, and generally the passive movements ultimately become impossible. Often the patient makes spontaneous incoördinate movements, especially with the hands and arms, from time to time. In these movements, apparently intentional, there is shown frequently a tremor of the upper extremities, with wide oscillations, and a certain grade of ataxia. The speech is drawing, the voice trembling and often nasal.

"The face has a rigid and contracted appearance; however, at intervals the mimic muscles, principally those of the mouth, are agitated by tremors which spread from one muscular fasciculus to another and reach even distant muscles.

"The lower extremities are habitually in forced extension, the feet in plantar flexion. The exaggeration of the reflexes increases up to the last hour or life, the knee jerks being

especially exaggerated. Even a definite ankle clonus is not rare. Under a light percussion on the tendon of the quadriceps there is often a spasmodic reaction of the leg accompanied by convulsive movements of the whole body. At times, together with plantar clonus, there is a paradoxical contraction of the extensors of the foot, and hyperesthesia to tactile stimuli so marked that a breath of air or a ray of light may provoke motor disorders or tonic convulsions."

Of course, all cases of pellagra do not show this picture in the final stages, but it is a very classic description of the manifestations of certain types.

Looking over this description, especially the parts which we have italicized for the purpose of this discussion, one is at once struck with the fact that it is an excellent description of tetany. This would naturally lead to an inquiry as to any possible role of some disturbance in calcium metabolism. However, as such a picture is seen only in advanced stages, it seems more reasonable to assume that the tetany is of a gastrointestinal type such as sometimes follows any prolonged diarrhea—presumably from excessive calcium loss rather than insufficient intake. This is one of the recognized causes of tetany, and finding the blood to be low in calcium would prove little as to etiology in such a condition. However, the matter interested us enough to cause us to write to Prof. Christian of Harvard nearly two years ago to inquire if he thought it could be worth while for us to invest in a portable blood-calcium outfit to investigate this point, and he seemed rather sceptical, so we did not take up the work.

On further thought, there seem to be a number of arguments against a calcium-deficiency theory of the etiology of pellagra.

1. The author states that there is less calcium in the soil in the South than elsewhere in the country. He states this categorically, without citing his authority. Moreover, he does not mention the calcium content of the soils of other countries, such as Italy, Egypt, Roumania, etc., where pellagra is or has been rife. These factors should be investigated in promulgating such a theory. Moreover, why is not the blood calcium of southern people in general below normal, whether in usable or non-usable form?

2. Despite his soil theory, tetany seems to

be more frequent in the North than in the South. So does rickets. Sunlight seems to aggravate pellagra, at least the cutaneous manifestations. It seems to cure rickets and tetany, diseases acknowledged to be associated with disturbances of calcium metabolism. The generally recognized calcium deficiency diseases seem to be worse in winter. Pellagra tends to show remissions in winter or to clear up entirely.

3. How does the soil deficiency theory explain the very great variations in pellagra incidence? Did the southern United States suddenly get a whole new soil when pellagra first appeared in epidemic form in 1906-7 in Alabama and spread all over the southern States? Consider, too, the case rate for 12 southern States as published by the U. S. P. H. S. year by year from 1919 to 1928 inclusive. Here are the figures:

Year	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928
Case Rate per 100,000 population	112.3	109.3	181.1	44.2	56.4	39.6	85.3	72.9	117.4	189.4

What changes have taken place in the soil of these States to explain this variation in incidence of the disease?

4. There are rural sections where, although the well water is rich in lime, pellagra abounds.

Our own view, as previously published in this journal and elsewhere, is that pellagra is probably an infection, but that certain dietary deficiencies predispose to that infection. Of these dietary deficiencies, the lack of vitamin G seems to us perhaps the most important. Calcium deficiency might be another predisposing cause—the results reported in the paper under discussion would seem to suggest this, though nothing more than this. From 1920 to 1923 the deaths from pellagra in North Carolina showed a considerable variation. From 1923 to 1930 they showed a steady and marked increase—224 deaths in 1923, more than a thousand in 1930. The figures for the first six months of 1931 compared to those for a comparable period of 1930 point towards a decline in the number of pellagra deaths for the first time in eight years. Such changes have scarcely occurred in our soil, or even in the vitamin content of the diet of our people. However, there is no question that a very earnest effort has been

put forth by our public health agencies and by our doctors to further a more varied diet and an increase in the vitamin G consumption of our people, and this may be *one* factor in the decrease noted this year over last year.

But what about the author's apparent results with his lime-water treatment? We agree with the author at least so far as to hold that a vitamin deficiency is not the *sole* cause of pellagra. Yet Goldberger cites a vastly greater number of cases apparently improved by yeast therapy and a diet rich in vitamin G than Dr. Miller reports improved by lime-water. So, results may be due to many and varied causes. A healthy scientific scepticism will demand an investigation of all the possible causes for the results before selecting any one factor as *the* sole cause. Be that as it may, the lime-water treatment of pellagra is so simple, so practicable, and ob-

viously so harmless, that there is no reason why it should not receive an extensive trial at the hands of a large number of men. The final test will be the test of time.

Ode to An Ulcer

Oh, junket is a simple food,
Designed to suit my gastric mood;
It's nourishing and sweetly mild,
It would not harm the smallest child.
I hate it!

Creamed soups are simply swell for me,
They're full of calories, you see;
They will my strength and health restore.
I ought to eat and howl for more.
I hate 'em!

And there's delicious custard, too,
Should make my stomach fairly coo—
And cream of wheat and good rich milk,
And white of egg as smooth as silk
And other things of that same ilk.
I hate 'em!

Now ham is very bad for me,
And beef is oh! so sad for me;
To me a lobster's just a curse
And cigarettes a damned sight worse
And as for cocktails, good-night, Nurse!
I love 'em.

—A. E. Thomas, Wakefield, R. I., in Medical Times

SOME DEAVERISMS

With the passing of Dr. John B. Deaver the world has lost, not only a master surgeon, and one of the greatest surgical anatomists of all time, but perhaps the most forceful and colorful teacher in any branch of medicine of his day. We know of only one or two who might dispute the last claim, and they are, Dr. J. Chalmers daCosta, and possibly Lord Moynihan, whom Deaver so often quoted as, "My friend, Mr. Moynihan, of Leeds." We shall not attempt to settle this point, but proceed to the matter in hand.

Back in 1913, when a fourth-year student at the University of Pennsylvania, the writer culled from his notes on Deaver's clinics and lectures a number of sayings and labelled them Deaverisms. These were published in *The Medical 'Scope*, the class annual. A few more have been added from memory. As no little of the force of Deaver's teaching was due to his unique methods of expression, there seems to be enough historic interest in these quotations to warrant their repetition here. Here they are:

ON POSTOPERATIVE PERITONITIS, CONCLUDING WITH THE WORLD-FAMOUS APOSTROPHE TO PERISTALSIS.—"The other day I operated on a woman and took out her appendix as a matter of course. The next day my resident came to me and said, 'Doctor, that woman you operated on has peritonitis.' I said nothing, but went and examined her. What did I find? Temperature low, great pain, muscles rigid, and—a *silent belly*! Oh, boys, I tell you it isn't the operation that worries you—if a man can read the signboards at the cross-roads he never worries at the operating table—it's knowing *when* to operate and getting the patient *well* after operation. Oh, those three days after! oh, those three days after! I tell you, boys, I got mighty little sleep till, on that third day after, I heard—oh, beautiful sound,—the escape of flatus from the bowel! Oh, Peristalsis, Peristalsis! The gift of beneficent Nature! I tell you, boys, the sweetest sound the surgeon ever hears is peristalsis that third day after!"

* * *

"This man's life is worth saving. He's a laboring man, and therefore of use to society. Lots of your rich men have but one use—to furnish the surgeon with the filthy lucre he needs."

QUESTIONS AND ANSWERS

"Where do I teach you that gastric ulcer is most frequently located?"

"In the right iliac fossa."

"What is the commonest tumor in the abdomen?"

Student, hesitating: "Fibroid?"

"No! Pregnancy! Cerebrate, young man, cerebrate!"

"What do we go in the water for?"

"To learn to swim."

"How do we learn living pathology?"

"Expose the organs to the light of day."

"How do we expose the organs to the light of day?"

"With the aseptic scalpel."

"What is the aseptic scalpel?"

"It is mightier than the pen and the sword put together."

"What is the first thing to do in a case of appendicitis?"

Student, proudly, "Operate".

"Wrong! Make a diagnosis!"

"What is the rules of three in surgery?"

"Cut well, sew well, get well."

"What does the old colored man say?"

"Seein's believin'!"

"Who walks by faith?"

"The general practitioner."

"Who walks by sight?"

"The surgeon."

"How many specialists does it take to make a doctor?"

"Nineteen."

* * *

"Oh, that air of confidence, *that air of confidence*! When I see a young man coming up for examination wearing a smile on his face and the confident air I can't flunk him. I know he knows his surgery without asking him a question."

"Perforation means purgation

In an appendix kinked and bad,

Food and drink, they worry him,

And aperients drive him mad."

"Oh, that little aperient pill! If you purge your patient, you put him under a tombstone,—and that's a very *mortifying* place to put him.

"Infection means granulation; granulation, cicatrization; and cicatrization, contraction."

"The good surgeon is the man who understands the language of these organs, who can hold a conversation with the stomach."

* * *

The writer wishes to add that Deaver's statement regarding the air of confidence in the young man coming up for an examination and his reaction thereto, was not one to be taken too literally. Naturally, all of us, after hearing the statement made, assumed an air, not merely of confidence, but of bravado, on going up for an individual oral examination. The writer went up with a grin like that of the Cheshire cat, but it didn't cramp Deaver's style at all—he gave him a thorough grilling, and taught him much by making him make a number of mistakes in his answers to questions. After it was all over, the writer saw Deaver take out his notebook, and poise his pencil over it as if to record the mark given. Wishing to know what he got, the writer looked over Deaver's shoulder to see the result. The result was—nothing! The pencil did not move, and neither did Deaver, and not a word was passed, until, after a lapse of time that was becoming increasingly embarrassing to the writer, and, no doubt, increasingly amusing to Deaver, the former realized that Deaver hadn't missed anything of what was going on behind his back, and so discreetly retired, a sadder and a wiser man.

SHOULD HIGH BLOOD PRESSURE BE REDUCED?

(I. Harris, Konigsberg, & C. L. G. Pratt, Liverpool, in *The Lancet*, Sept. 19th)

The question whether high blood pressure ought or ought not to be reduced is of great practical importance. An attempt has been made here to decide it by an experimental method. The idea underlying the investigation is to reduce the pressure artificially and to determine the cardiac reserve power as well as the renal function under the altered conditions.

Twenty-two patients were put on a standard diet, which was rigidly enforced for three weeks. During the first week no drugs were given; during the second week pressure-reducing drugs were administered; in the third week again no medicine was given. Collosol sulphur (Crookes), 3 c.cm. daily, was injected intramuscularly in the majority of cases; the effect of this drug on pressure is both profound and lasting. Erythrol-tetranitrate was, however, employed in some cases. The following tests were applied each week: water-excretion test, water pituitrin excretion test, blood-urea, blood non-protein nitrogen, blood uric acid, alkali reserve, blood chlorides, chloride concentration test, blood phosphates, and ammonia

coefficient.

Water excretion was normal in all the cases under review as long as no pressure-reducing drugs were employed. During the period in which patients were under the influence of pressure-reducing drugs the great majority of cases showed a marked reduction in the water-excretion power. It is clear that such an elementary function as water excretion becomes depressed in cases where pressure-reducing drugs are employed.

Blood urea was increased in all cases under the influence either of collosol sulphur or of erythrol-tetranitrate. It is obvious that there is definite urea retention in cases of high blood pressure after the administration of pressure-reducing drugs.

There was only one patient out of 22 who did not show an increase of non-protein when under the influence of pressure-reducing drugs.

The cardiac power was tested the first week, when the systolic pressure remained normal, and the second week, when it was reduced. It was found in the normal heart that the stroke volume (cardiac output per beat) is greatly increased as the result of exercise. In the diseased heart, on the other hand, the increase is only moderate or is absent. Another important test refers to the time in which oxygen consumption becomes normal after the standard exercise. The shorter the period in which the oxygen consumption becomes normal the better the condition of the heart. Yet another important reaction refers to oxygen requirement. The worse the condition of the heart, the greater the consumption of oxygen.

These tests as shown in a tabulation prove conclusively that *the heart suffers definitely as a result of treatment by pressure-reducing drugs*. This result is not difficult to understand, as an adequate pressure in the aorta is of vital importance for the coronary circulation.

Various attempts have been made to seek the cause of hypertension in various substances circulating in the blood, but with little success. Might it not be an endeavour on the part of the organism to keep the blood chemistry within normal limits? This may be the reason why nothing really abnormal is found in the blood chemistry as long as the blood pressure remains high. It is only when the pressure is reduced artificially, and thus a condition of artificial heart failure brought about, that there is abnormal retention of substances in the blood in these cases.

CONCLUSIONS

(1) The water-excretion function is definitely depressed as a result of administration of pressure-reducing drugs. (2) There is retention of urea, non-protein nitrogen, phosphates, and chlorides in the blood as a result of pressure-reducing drugs, while the alkali reserve is generally lowered. (3) The cardiac function is definitely impaired as the result of the treatment. (4) The conclusion is that it is not desirable to administer pressure-reducing drugs as routine treatment in cases of hypertension.

INTERNAL MEDICINE

PAUL H. RINGER, M.D., *Editor*, Asheville, N. C.

SOME COMMENTS ON MEDICAL LITERATURE

There is today a vast mass of medical literature, most of which is re-hash and re-statement. Anyone trying to keep fairly well abreast with current medical writing must be struck with the prosaic and rather platitudinous tone of most of the articles.

What constitutes a good medical paper? The answer to this question is not as brief as one might expect. There are several types of papers which can be considered as essentially good. The first and best is that paper in which something wholly new in diagnosis or in treatment is set forth for the benefit of suffering humanity. The second type, usually statistical in its nature, is based upon careful observation of a large number of cases and presents the logically deductible facts attained as a result of mass observation. These papers are of value for they show that which is most apt to happen under given circumstances. They are, however, apt to be top-heavy with tables and generally are very dry reading, particularly to the individual whose mind does not move in mathematical spheres. The third type of paper which is good is that which an expert on a given subject writes thereon giving the results of his experience and study in his particular branch. I refer to such papers as those of the late John B. Deaver on appendicitis or those of H. S. Plummer on goiter. Finally, there is what might be termed the philosophico-speculative type of communication which, when well presented and well thought out, constitutes the most delightful type of medical writing. It must be based on sound knowledge of physiology and pathology, and upon a correct interpretation of clinical symptoms by a doctor who is scholarly. It can go into the realm of the speculative and should, for the last word has not been said on any medical topic. It should be written by a man who has a sense of humor, without which quality the life of a physician is indeed grey and drab and dull. It should have as its background truth; but in the seeking for that truth, it is well at times to indulge in lighter vein in order to relieve tension.

A writer of the last-named type of medical article is Dr. Walter C. Alvarez, of Rochester, Minnesota, to whom the editor has referred

in previous communications. His latest article appears in the October number of *The American Journal of the Medical Sciences* and is entitled: "Problems of Present-Day Gastroenterology". It is an excellent presentation of many conditions with which the gastroenterologist and the internist is called upon to deal, and it is presented with all the charm of Dr. Alvarez's style and with all the authority of his vast knowledge based on experience. Oddly enough, there is not an authority cited and yet, so sound and so conservative is the tone of the paper, one does not feel the lack of supporting voices. If one did not know of Dr. Alvarez, one would realize that the article in question was an excellent presentation of the subject by a master hand. The paper cannot be abstracted. I quote the last two paragraphs verbatim:

Summary

This paper cannot easily be summarized; about all one can do is to add an index. The subjects treated are: the mechanism of aboral peristalsis; gradients; the nerves of the digestive tract; the mode of production of symptoms of indigestion; gastric secretion; flatulence; disturbances of digestion due to emotion, to constipation, to coarse diet, to constitutional inadequacy, and to migraine; the causes of constipation and diarrhea.

Particular attention has been given to those so-called functional troubles that may really have an organic basis. They might be due to gastritis, enteritis, hepatitis, cirrhosis of the liver, pancreatitis, mild infection with neurotropic viruses, mesenteric lymphadenitis, disturbances in the circulation of the stomach and bowel, or diseases of the nerves in the abdomen. Suggestions are given as to the possible cause of peptic ulcer and pseudo-ulcer and as to the ways in which abdominal pain may some day be relieved.

Articles such as this will repay being read not once but several times. The one under discussion is full of plain, hard commonsense and so much of it must be digested that it is impossible to accomplish it with one reading. Most interesting of all to the editor was the page devoted to migraine. The editor cannot too heartily recommend this communication and suggests to his readers that they send a postal card to *Dr. Walter C. Alvarez, Mayo Clinic, Rochester, Minnesota*, asking for a reprint of the excellent paper.

In 1849 Berthold restored normal appearance to capons by use of testicular grafts; but that doesn't prove that this can be done for eunuchs even today.

PUBLIC HEALTH

GEO. M. COOPER, M.D., *Editor*, Raleigh, N. C.

ANNOUNCEMENT OF STATE HEALTH POLICIES

On September 28th and 29th there was held at the offices of the State Board of Health, in Raleigh, a very important meeting consisting of the nurses and dentists employed by the State Board of Health, together with a limited number of county health officers and the nurses representing the county and city departments, who found it convenient to attend on short notice. This meeting was arranged by Dr. James M. Parrott, the State Health Officer, in coöperation with Drs. Branch, Hamilton and Cooper, and Mr. Booker, of his staff.

The purpose of the meeting, as stated by Dr. Parrott, was to study the problems which confront the school dentists and nurses, and to correlate their activities with the activities of other county health workers, and especially with the whole-time and part-time county health officers.

The meeting was very largely attended and enthusiastically received by every one present.

It was agreed, and made very plain, that the time had come to re-evaluate our ideas of school inspection and school professional service. The chief address was made by Dr. Parrott, who set forth the fact that the State Board of Health is taking the definite position that its duties may be specifically stated to be a disease-prevention agency in the strictest acceptation of that expression. Dr. Parrott very plainly outlined some of the activities that in no way constitute a function of the State Board of Health. He enumerated them as follows: (1) The State Board of Health is *not* a law enforcement agency; (2) it is *not* a diagnostic agency; (3) it is *not* a curative agency; (4) it is only in part a personal health promotion agency. Always when functioning even in a limited way as a personal health promotion agency it must work hand-in-hand with the physician in all such matters if undertaken at all.

The conference was participated in by many of those who were present. In addition to the address of Dr. Parrott, formal papers were presented by Drs. Verne S. Caviness, W. B. Dewar, John B. Wright, and A. S. Root, of Raleigh, Mr. W. H. Booker and Dr. John H. Hamilton and Dr. J. W. Kellogg of the staff, and by Dr. L. B. McBrayer, secre-

tary of the State Medical Society, and Miss Hattie S. Parrott of the State Department of Education. Among those taking part in the discussion of important problems relating to the dental program of the Board of Health work were Dr. J. N. Johnson, of Goldsboro, a member of the State Board of Health; and E. A. Branch, director of the Bureau of Oral Hygiene of the Board; and Drs. J. Martin Fleming of Raleigh and J. S. Betts of Greensboro.

The State Board of Health, under the leadership of Dr. Parrott, is determined to make the work of the Board to conform in every way with the fundamental principles of preventive medicine and public health work. Its activities are to be confined to its logical functions and it is hoped that in a short time public health work in North Carolina may be moving forward in a manner which will be pleasing to all the friends of progress and advancement in this State.

PUBLIC HEALTH SERVICE LENDS US

DR. ZIEGLER

In response to a recent request made by Dr. James M. Parrott, State Health Officer, to the United States Public Health Service, that organization has lent to the North Carolina State Board of Health the service of Dr. M. V. Ziegler for one year, without cost to the Board. Doctor Ziegler comes to this work with a number of years practical experience and an unusually fine training in county health and state board of health work. He is a genuine expert. He has a national, and in some respects an international, reputation. The State Board of Health considers itself very fortunate in being able to get the service of Dr. Ziegler and it greatly appreciates the value to our people which this very close and intimate coöperation with the United States Public Health Service will bring. Doctor Ziegler moved his family to Raleigh and commenced his work early in October. The United States Public Health Service is undoubtedly the leading agency in public health work in the world. It is very gratifying to Dr. Parrott and the State Board of Health organization to have it recognize the standing of the present State Board of Health and to enter upon this coöperative enterprise with the Board.

What is first thought to be the bronzing of Addison's disease is sometimes removable with soap and water.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D., *Editor*
Winston-Salem, N. C.

SIMPLICITY IN MEDICAL WRITING

Criticism is a dangerous weapon, that may be a boomerang. Nevertheless, I am willing to risk being boomeranged in order to get an idea out of my system.

In a recent *Journal of the A. M. A.* occurs a sentence that started this idea to fermenting. In the opening paragraph of the first article of this issue, occurred the phrase, "Everyone is cognizant of the fact". The writer was chairman of a very important section of the A. M. A., and his address was full of thought; but the thought was largely concealed by the language used. Why should any one say "is cognizant of the fact", when "knows" would express the same meaning? Why use five words when one word of five letters would do better?

The layman shrewdly suspects the doctor of using long words to conceal his ignorance; but even if a doctor is guilty of the habit, he need not try to bluff other doctors. It will clarify his own ideas to put them in the simplest language possible. Soon after Hendrick's "Life and Letters of Walter H. Page" was published, I was reading it. My little daughter, who had been in the first grade less than four months, came to my side and began picking out the words she knew. For curiosity's sake, I had her read as many words in one of Mr. Page's letters as she recognized. About 70 per cent. of them she read glibly—enough to understand the drift of the letter. This is not told to prove that I am the father of a prodigy, for any other intelligent child of her age could have done the same thing. Rather, I want to make the point that one of our greatest scholars, an honor graduate of Hopkins, in writing to mature men, used words so simple that a child in the first grade could understand most of them.

It is unfortunately true that some of our medical leaders seem to have the idea that their prestige would be threatened if they were to clothe their thoughts in the simplest language available. These need to be reminded that the Holy Writ warns against those who "speak great swelling words of vanity".

A GOOD BOOK

"Devils, Drugs, and Doctors" is the catchy title of a most fascinating popular history of medicine, by Dr. Howard W. Haggard, who is the associate professor of applied physiology at Yale. It is published by *Harper's*, and its merit is witnessed by sixteen printings in two years. It now retails for three dollars.

It is a good book to add to one's medical library, and to put in one's reception room for the edification of waiting patients. In a clear but most interesting style the author traces the history of medicine from its earliest dawn to the present time. In some detail he sketches the progress of obstetrics, of anesthesia, of surgery, then the conquest of various plagues, the rise of preventive medicine, and the eternal struggle, which is not yet ended, against superstition.

An idea of the author's style can best be obtained from a few quotations, taken at random from the book. "Lister thus supplied the last essential to modern surgery—a means of preventing infection. He gave to surgery the dignity of a science, and every surgical operation today is a monument to Lister". "Faith healing that is practiced today among civilized peoples differs only in form from the faith healing of the most primitive peoples. The howling medicine-man of former times and the quiet Christian Science healer of today use the essential principles in their treatments". "Faith healing has many names. Its opponents call it superstition; its supporters call it psychic healing, the laying on of hands, chiropractic treatment, psychoanalysis, or Christian Science". "Christian theology retarded the development of means to cure the sick, but at the same time the Christian religion partially compensated for this detriment by introducing an entirely new attitude toward the sick".

"The fact is that vitamins are found more abundantly in such commonplace articles as tomatoes than in the prepared compounds; but tomatoes lack the alluring qualities of pills and cakes of yeast; that humble vegetable lacks particularly testimonials".

The book reaches its climax in the final chapter on "Civilization and Medicine", in which the author shows the tremendous debt civilization owes to modern medical science. Let me quote at some length.

"Let us consider what would happen to New York or London if it were deprived of

the protection of medical science. . . . The pestilences would return. Epidemics would sweep across the country and within a decade the greater part of the population would have been wiped out. . . . Large sections of the world which are now prosperous would become uninhabitable. . . . Such facilities for travel as the railroad, the steamship, and the airplane would spread disease with far greater rapidity than could the stage coach or the sailing ship. . . . Diseases now almost forgotten would return to take their place with the existing pestilences. . . . Surgery would be the rough wound surgery of the ancients".

"It is not mere imagination, but the cold and literal truth, to say that modern civilization . . . would be utterly impossible were it not for medical protection".

Dr. Haggard is continuing the good work begun in this book by weekly radio talks, sponsored by the Eastman Kodak Company. These talks bear the same name as the book, and are given over various stations at eight o'clock every Sunday evening.

PUERPERAL SEPSIS: THE IMPORTANCE OF EARLY TREATMENT

(A. R. Hobbs, *British Med. Jour.*, Oct. 24th)

In the treatment of puerperal sepsis the method of glycerin irrigation, as practiced at this hospital, has been proved to be entirely harmless to living cells, and has established its claim to be regarded as the most efficient remedy at our disposal.

The following are the reasons, in my opinion, for the present unsatisfactory state:

1. Too much stress has been placed on the fact that the phenomena of the so-called puerperium are of a physiological character.

2. There is a widespread belief, unwarranted by the facts, that puerperal sepsis is always characterized by fever, the result of bacterial infection of the raw uterine surface.

3. Treatment is in many cases not begun early enough, nor is it continued until every symptom and sign of sepsis has disappeared, and the uterus has been restored to its normal condition.

4. Most important of all, and as a corollary to No. 2, early symptoms and signs have been too long neglected by medical attendants in maternity cases.

After labour the raw uterine surface is an open wound; as in the case of other wounds, simple reactionary or inflammatory changes must occur in the course of healing. These changes are at a minimum in cases where the uterine surface is left perfectly clean and remains clean. After labour, however, placental remnants and blood clot frequently

remain attached to the uterine wall, and only gradually are they extruded. So long as they remain in the uterus they are undoubtedly a potential nidus for infecting organisms of varying degrees of virulence.

All signs of pathological inflammation must be taken into account, and, if we must give pride of place to one, surely it should be to the pulse rate.

In my experience it is exceptional for cases of puerperal sepsis to develop pyrexia at the outset. Many patients have offensive lochia, red lochia, and purulent discharge, and yet for some days remain entirely apyrexial.

In cases where thorough glycerin [Details referred to as given in previous issue which happens to be in the hands of the binders. These we will publish as soon as journals come from the binders.—S. M. & S.] treatment has been commenced early enough I have met with no instance where this method has failed to relieve uterine obstruction and to induce free and efficient drainage. Not only so, but during the last 18 months, treatment has not ceased until the uterus has been restored to a perfectly normally functioning organ, and until all cervical erosions have been completely healed.

Cervical erosions should be noted early in pregnancy, and treatment should be carried out by regular instillations of glycerin, one inch within the cervix, throughout pregnancy, in order to reduce inflammation. The presence of *B. coli* in the urine requires treatment in the cervical canal. The treatment of both uterus and bladder, where such an infection has been present, should be actively continued during the puerperium.

What are the chief signs and symptoms which, if detected early, reduce the mortality and morbidity? They are:

- (1) A temperature of 99°, and a pulse rate of 90;
- (2) Uterine colic; and
- (3) Abnormal lochia.

It is our practice to institute drainage by glycerin as soon as ever the temperature rises to 99°, or the pulse to 90.

VITAMIN A AND THE COMMON COLD

(H. P. Wright, John B. Frost, F. Puchel and Margaret R. Lawrence, Montreal, in *Canadian Medical Assn. Journal*, Oct., 1931.)

Twenty infants were supplied over a period of months with large amounts of vitamin A.

Forty infants under exactly similar circumstances were supplied with the amount of vitamin A usually given to normal infants.

No appreciable difference was found in the incidence to upper respiratory infection in the two groups.

Therefore, it is concluded that vitamin A in excessive amounts does not protect infants against respiratory infection.

DENTISTRY

W. M. ROBEY, D.D.S., *Editor*, Charlotte, N. C.

THE "DEAD" TOOTH AGAIN

The opinion of a dentist from a clinical standpoint alone, has little weight at this time. His perspective is too broad. The reverse is often too true of the research worker: his vision is too narrow.

The practical result is reached by a view of both standpoints. Recovery from the shock of the discovery that, good dentistry—"save the tooth at all costs"—was bad dentistry has been naturally very slow. Fear of jeopardizing our patients; economic relief to the dentist—for that "good" dentistry was expensive dentistry, unappreciated by the laity; and the economic aspect to the patient due to the greater detail demanded (and therefore greater expense) in the accepted treatment at present have discouraged, to say the least, the treatment and filling of root canals and the retention of many valuable teeth.

Without copying his article in its entirety I shall quote extensively this writer¹ whom I have followed for several years.

He concludes "The question, then, is no longer, can it be done? It has changed to, do the dentists wish to do it?"

"We will first review the concepts relative to the pulpless tooth in which there is quite common agreement: The general practitioners, with few exceptions, are fully conscious of the potential menace of periapical infections: recognizing that there are a large number of secondary involvements that may be initiated through these infections. They are aware, too, of the fact that some patients are less susceptible to the secondary effects than others; that there is in general an increased tolerance in youth, and, finally that there is still quite general agreement that, under favorable conditions, pulps may be removed and, through adequate root surgery, need not become a menace to the health of the patient."

He attributes the discontinuance of the practice by many dentists to confusion due to conflicting experimental data, unessential technical detail and buncombe as empirically

outlined by some specialists, a few cases in which the life of patients have been endangered and, most commonly, the economic aspect.

The last named seems to be the dentist's problem rather than the patient's, for "with our present debunked methods, root surgery of the single rooted teeth at least should cost the patient less than the required restoration, and in the majority of cases, if properly managed, will be equally safe and more efficient and will give the patient longer unimpaired health service."

Vital pulps degenerate under fillings and bridge abutments in perfect-appearing teeth from trauma and other causes and "it is only in the advanced stages that the roentgenogram or differential vitality readings are of any help in their detection." "Operative dentistry with all its splendid achievement, has not, as yet, advanced to the most effective and efficient service by extraction in all suspected cases of pulp involvement and replacement with elaborate restorations. "A great deal of the present misunderstanding between the two professions is due to a lack of appreciation by the dentists of the significance of vital pulp degeneration."

"The most ardent root canal specialists in the present stage of development are in complete accord with the necessity for extraction of all hopelessly infected teeth."

He does not believe that all of us should become root canal specialists because we are not all temperamentally adapted to this type of surgery, but he insists that the profession cannot afford to discourage specialization, research and study toward constant improvement in surgical management of pulp-involved teeth to something better than promiscuous extraction.

LEUCORRHEA

(R. T. LaVake, Minneapolis, in *Journal-Lancet*, October 15th)

This subject should be approached in every case through elimination of each and every one of the 6 fundamental causes of gynecological disorders, pregnancy, injury, infection, new growth, congenital deformity, and constitutional disturbance.

Adrenaline passes from the cells in which it is found *directly* into the blood, not, as in most organs, *via* the lymph.

1. Rickert, U. G., Ann Arbor, Mich., in *Jl. Amer. Dental Assn.*, June, 1930.

RADIOLOGY

DEWITT KLUTTZ, M.D., *Editor*, Washington, N. C.

THE VALUE OF X-RAY AS AN AID IN DIAGNOSING CHRONIC APPENDICITIS

The value of roentgenological examinations in chronic appendicitis is mentioned only occasionally in print, but it is quite often that suspected cases of this condition are afforded x-ray examinations. This is resorted to in the hope that something more definite can be added to the uncertainty of the findings from the history and physical examination,—in the hope that there will not be added one more to the ever-present complaining failures of appendectomy for chronic abdominal ailments. Does the average examination by the radiologist aid in reducing such failures? Or does the examination by the available radiologist aid the surgeon to cure more patients than he could do by relying on his own judgment? In such a summary as this the only criterion of successful results is the patient's comfort. The microscopic findings of the surgeon and the additional microscopic data of the pathologist must coincide with the symptoms of the patient. Lymphoid tissue usually shows some signs of inflammation. A microscopically normal appendix in our pathology laboratory is rare and usually brings up an argument.

Acute tenderness over the visualized appendix or over the area adjoining it often furnishes valuable information as to its inflammatory condition. Failure to fill, slowness in emptying, kinks or displacements, adhesions behind the cecum or against the liver, or even in the left side of the abdomen, may imply that there has been a developmental displacement or a subsided previous inflammation. Acute appendicitis does sometimes undergo curable resolution and the defects left behind may have no bearing on the present abdominal symptoms. Developmental malposition of the appendix can be similarly classified. A most striking instance of this was recently seen in a patient of 55 years who had a negative history until he was admitted with a high obstruction of 24 hours duration, following an upset from an irritating food intake. A perfectly benign appendix 7 in. long was found, passing beneath the posterior attachment of the mesentery of the small intestines and grown into the beginning of the

jejunum. The obstruction was the result of a duodenojejunitis causing spasm and pulls against the fixed duodenojejunal curve. This patient was too acutely ill to be viewed by the x-ray, but before his acute attack a visualization of his long appendix in such a position would have been diagnosed as a mechanically surgical condition. We have seen many long appendices reaching to the left adnexa and causing abscess of the left tube and ovary. Of course it is not uncommon to see an inflamed appendix sticking to the right ovary and causing symptoms that inflammation in that part of the anatomy might show.

If the radiologist is allowed the use of the intravenous method of estimating the gall-bladder and liver function, many failures in apparent appendiceal inflammation are eliminated. The frequency of biliary involvement from appendiceal inflammation has been more apparent since this valuable test has been afforded us. The ease of this spread of infection over the lymphatics and over the portal vein is readily understood. The frequency with which this has already taken place in acute appendicitis before emergency operations can be performed is evidence that in long-delayed cases the gall-bladder may have already been affected. The dye test often shows the fact that removal of a diseased appendix has given or will give little or only temporary relief because of biliary involvement, and that cholecystectomy may be the key to the situation.

The most unsatisfactory patient is the hypostatic nervous dyspeptic. Of course any of these may have an appendix or a gall-bladder of various degrees of inflammation. It is in these that the roentgenologist as well as in these that the doentgenologist as well as the internist, the surgeon and the family doctor have the most worry. If there is proven infection in the abdomen, mouth, nose, etc., its removal is needed; but it is in this class that surgery gets into disrepute. Such a patient is usually bordering on a toxic infection psychosis, but often is more persistently ill than this class. Alvarez has rescribed the symptoms and treatment of this type very satisfactorily, and by following his suggestions often the internist, the surgeon and the radiologist can coöperate so as to gain the goal, happy patient.

NURSING

For this issue, BEULAH B. DENMARK, R.N.,
Goldsboro, N. C.

OFFICE NURSING

Chairman Office Nurse Section, North Carolina
Nurses' Association

Office nursing has its place and purpose, just as do the other phases of work in which members of the nursing profession are engaged. Through no fault of anyone, office nursing has been sadly neglected; but it is coming into its rightful place, and if given the proper support, the possibilities for service through its development and growth are limitless.

There has been definitely established in the North Carolina Nurses' Association, an Office Nurse Section. The spirit which animates this section is one of earnest purpose. We want to supply the medical profession and the public one of their greatest needs, *i.e.*, a registered nurse in every North Carolina doctor's office.

There are nurses in North Carolina who possess the qualities requisite for office assistants. The medical profession and the nursing profession are complementary. If the doctors of North Carolina want office nurses and are interested in the establishment of some standard requirements for office nurses, we want to know it.

We invite expression of opinion and suggestions from each member of the medical profession. May we have yours?

Dr. Garry Simpson (Lancaster Gate, W.) writes: I have recently come across another life made miserable, and the patient become a *confirmed hypochondriac*, by being told he had a weak heart; this is only one of many sad cases I have met with in the last 40 years. The case in point was a miserable, weedy-looking man about 30 years of age, who came to consult me about some ear trouble. He told me that he had a weak heart, and I suggested that I should examine it; this I did, and found it as sound as a bell, and told him so. After two months there was such a change I hardly recognized the man; he told me he had put on half a stone [1 stone=14 lbs.] in weight, and was feeling a new man in every way. He confessed that his life had been made miserable for some years by what his doctor had told him. Unless there is some organic disease or other strong reason, I look upon it as next door to criminal to tell a patient he has a weak heart.—*British Med. J.*, Oct. 3rd.

WOMAN'S AUXILIARY

MRS. P. P. MCCAIN, Sanatorium, N. C.

The Fifth District Auxiliary held its annual meeting in conjunction with the District Society at the Sanatorium in October. Mrs. R. S. McGeachy, State president, and Mrs. A. B. Holmes, State treasurer, and Dr. J. B. Wright of Raleigh were the speakers. Mrs. O. L. McFadyen, councilor, was elected president of the District and Mrs. J. S. Hooker acted as secretary for the second year. Daisy Andrews, 7-year-old child of Carrboro, whom the State Auxiliary is keeping at the Sanatorium, was a guest of the ladies at the close of the meeting. Mrs. O. L. Miller, Gastonia, was an honored guest.

* * * *

The fall meeting of the Hoke County Auxiliary was held at the quarters of Mesdames C. D. Thomas and J. S. Hooker at the Sanatorium on October 30th with every doctor's wife in the county present. Articles from *Child Welfare* and *Hygeia* were read and discussed. Plans for 1932 were made.

Hygeia talks and material for county or city meetings may be obtained from the District Councilor or from Mrs. R. S. McGeachy, Greenville, N. C.

* * *

Give *Hygeia* for Christmas.

* * *

Does the doctor's wife take her rightful place in presenting health matters to her clubs?

* * *

Buy Christmas Seals and help fight tuberculosis.

NAME DUKE HOSPITAL WARDS

(The Diplomat, Oct., 1931)

Fourteen wards in the new Duke Hospital, Durham, North Carolina, have been named after men prominent in medical history. Medical wards were named for William H. Welch of Baltimore, Sir William Osler, Josiah Clark Nott of South Carolina, Daniel Drake of Kentucky and Walter Reed of Virginia; surgical wards for William S. Halsted of Maryland, Edmund C. F. Strudwick of North Carolina, Crawford W. Long of Georgia, Ephriam McDowell of Kentucky and James L. Cabell of Virginia; obstetric wards for J. Marion Sims of South Carolina, Francois Prevost of Louisiana and Henry F. Campbell of Georgia; the pediatric ward for John Howland of Maryland.

PRESIDENT'S PAGE

Tri-State Medical Association of the Carolinas and Virginia

Beverley R. Tucker

We are asking every member of the Tri-State Medical Association to endeavor to attend the Raleigh meeting in February. This is not enough. We now ask each man who is considering writing a paper to send the title in to Dr. James M. Northington, Charlotte, North Carolina, so that a good place on the program can be secured. We also ask each member to try to get at least one additional member. Associations of the Tri-State are so important that we believe every man who is doing creditable work in medicine in the three States should join the association.

Local arrangements are being made for the pleasure and comfort, not only of the members, but of their families. We hope to get a tentative program out as early as possible. This depends upon each member who intends to read sending in the title of his paper. There will be interesting papers by especially invited guests and we want to make the Raleigh meeting a record one. The fact that times are hard has nothing to do with the success of the meeting. The cost is

exceedingly small and the resulting values, both medically and socially, will be exceedingly large. No place could be more centrally located than Raleigh and the meeting hall, hotel situation and local attractions probably cannot be surpassed.

Things have developed medically so that it is necessary nowadays for physicians not only to stand together, but to know each other and work together and if the high ideals of associations like the Tri-State Medical Association are not maintained various irregulars, who for three thousand years have hung on the outskirts of medicine, will get a firmer foothold. We do not think it is too much to say that it is your duty to attend this meeting if it is possible for you to do so. Any suggestions that you may make for the benefit of the Tri-State Medical Association or this particular meeting will be gratefully received.

The officers look forward with great pleasure to seeing you and having you participate in the papers and in the discussions.

A COLLEGE STUDENT 60 YEARS

(Medical Pocket Quarterly)

Dr. William Cullen Bryant Kemp died after having spent his entire adult life, from eighteen to seventy-eight, as a constantly-registered student in a university. When William entered Columbia University as a student, more than sixty years ago, he had no stomach for the academic life and was about to chuck it, when a wealthy relative offered to give him \$2,500 a year as long as he was matriculated in a collegiate institution.

Solely as a by-product of his life work, Dr. Kemp accumulated a string of legitimately earned degrees which would make the accomplishments of the most greedy honorary-degree hunter look insignificant. At the time of his death he was entitled to write after his name, A.B., A.M., M.D., LL.B., LL.M., Ph.D., C.E., E.E., Mech.E., E.M., Phar. Chem. and B.S. *three times*. In addition to these, in later years, his fellow students conferred upon him the "honorary" degree of D.P.M. (Doctor of Perpetual Motion), in recognition of the fact that he had taken all of the esoteric and metaphysical courses offered by his untiring alma mater.

Dr. Kemp lived in the undergraduate dormitory

for many years and took an active part in all sorts of student activities. Later he took up his residence in the Columbia University Club, from which he was removed to a hospital a few days before his death. In the summers he traveled, within the limits of his modest but sufficient income, and managed, during the years, to see most of the world's interesting places.

APPENDICITIS IN CHILDHOOD

(D. J. Cannon, Dublin, in *The Lancet*, Oct. 10th)

Colicky abdominal pains, especially when associated with an increased pulse-rate, whether or not the temperature is raised, should be regarded with the gravest suspicion. If a child complains of abdominal pain and dysuria, plevic appendicitis should be suspected and a careful rectal as well as abdominal examination should be made.

"The treatment of pneumonia consisting of faith, hope, and charity—faith, in the *vis medicatrix naturae*: hope, for the absence of complications: and charity towards those who differ from oneself in treatment."

Southern Medicine and Surgery

OFFICIAL ORGAN OF
TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA

MEDICAL SOCIETY OF THE STATE OF
NORTH CAROLINA

JAMES M. NORTINGTON, M.D., *Editor*

Department Editors

HUMAN BEHAVIOR

JAMES K. HALL, M.D. Richmond, Va.

PEDIATRICS

F. H. RICHARDSON, M.D. Black Mountain, N. C.

G. W. KUTSCHER, JR., M.D. Asheville, N. C.

E. K. McLEAN, M.D. Charlotte, N. C.

DENTISTRY

W. M. ROBEY, D.D.S. Charlotte, N. C.

EYE, EAR, NOSE AND THROAT

EYE, EAR AND THROAT HOSPITAL GROUP
Charlotte, N. C.

LABORATORIES

THE BARRET LABORATORIES Charlotte, N. C.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D. Gastonia, N. C.

UROLOGY

HAMILTON W. MCKAY, M.D. Charlotte, N. C.

ROBERT W. MCKAY, M.D. Charlotte, N. C.

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D. Charlotte, N. C.

INTERNAL MEDICINE

PAUL H. RINGER, M.D. Asheville, N. C.

SURGERY

GEO. H. BUNCH, M.D. Columbia, S. C.

THERAPEUTICS

FREDERICK R. TAYLOR, M.D. High Point, N. C.

OBSTETRICS

HENRY J. LANGSTON, M.D. Danville, Va.

GYNECOLOGY

CHAS. R. ROBINS, M.D. Richmond, Va.

NEUROLOGY

OLIN B. CHAMBERLAIN, M.D. Charleston, S. C.

PUBLIC HEALTH

GEO. M. COOPER, M.D. Raleigh, N. C.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D. Winston-Salem, N. C.

HOSPITALS

MERCER C. PARROTT, M.D. Kinston, N. C.

RADIOLOGY

DEWITT KLUTTZ, M.D. Washington, N. C.

NURSING

HETTIE REINHARDT, R.N. Winston-Salem, N. C.

WOMAN'S AUXILIARY

MRS. P. P. MCCAIN Sanatorium, N. C.

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

Our own Doctors:—When you publish an article in some other journal, we'd be glad to have an abstract for publication at home.

MEDICINE'S ILLS—AND THE REMEDY

In the midst of, and as a welcome variant for, the Jeremiads of the legion of non-friends of doctors—and, regretfully be it said, of not a few doctors themselves—as to the darkness of the future of Medicine, there comes from the Middle West a message which says that all has not gone to pot, and sounds a clear call to doctors to go out and battle for their rights. The Annual Message of the President of the Kansas Medical Society¹ surveys the situation, gives the members of his Society a masterly analysis, tells them they must Fight, draws up the plan of battle and promises Victory.

What he says of the situation in Kansas applies accurately to that in North Carolina. Here are paragraphs from this indictment and call to arms, rearranged somewhat for convenience of further comment:—

"The Committee on the Costs of Medical Care" should be named the "Committee on the Cost of being Sick." The amount paid for tobacco is three times the amount paid to the medical profession.

There is already too much concentration in Washington Bureaus; States have notoriously shirked their moral and constitutional rights and duties. State societies have already gone on record as opposing the Shepard-Towner Act as Federal meddling with the sovereign rights of States. The practice of medicine is a function, the regulation of which belongs at the State Capitol and not in Washington.

I call your attention to the daily newspaper syndicated health articles by such men as Bundeson of Chicago and Clendening of Kansas City. They no doubt pay these men well for these articles. Why wouldn't they be glad to pay for equally well written articles sponsored by a State medical society? You may say offhand, it can't be done, but do you know it can't be done? It can and will be done if this society cares to take the trouble. A health column in our large papers, sponsored by such an important unit of organized

1. What is the Future of Organized Medicine?, Edgar C. Duncan, M.D., Fredonia, Kansas, *Jl. Kansas Med. Soc.*, June.

medicine as the Kansas Medical Society, would be more popular with more people than the column of any individual. I recommend this society take such steps as are necessary and approved by this society, for the completion of this idea.

Hospitalization is too expensive. The buildings and equipment are needlessly ornamental and expensive, making the cost per patient-day too high. How many who contribute on tag day to a hospital can afford to pay the six to ten dollars per day, when they become sick, to enjoy the service of this same hospital? Five hundred and four men in the United States each paid tax on an income of a million dollars or over. The country that furnished a civilization and government that makes it possible for these men to make such enormous profits, should have the moral and legal right to take sufficient of that profit to build good, modern, non-decorative hospitals to take care of the less fortunate who make a hundred or so a month. It is necessary to have millions of these low-salaried men and women in order for the billionaire to have a market for his products enabling him to make these large profits. These same poor Johnnies who are compelled to accept the charity of a few "Foundations" are the ones who will protect the property of the Fords and Rockerbilts, when menaced by the Yellow hordes or the Reds of Moscow; and these poor Johnnies may not always be as docile as they have been in the past.

We have approximately 2,200 physicians in Kansas. Fewer than 100 actually do anything about the affairs of the society or appear much concerned. If 1,500 members do not take an active interest in medical politics; if we criticise the State Society for not doing anything, yet do nothing ourselves; if we complain about the irregulars and *do nothing about it why we deserve to go out of business*. Why are legislators more afraid to offend the irregulars than they are of offending the regular profession? I will leave the answer to you; it seems obvious to me.

We do not want a display of embarrassing gratitude but we would like a square deal.

Remember the slogan of the third group of railroad men, *Fight*. Let us be a compact, cohesive organization not afraid to use our organization's power in State politics and re-

membering it is the State and not the National government that we should look to.

We have been too long the meek and lowly; afraid to assert ourselves politically and too indifferent to act even if not afraid. It is high time we change from a meek, defensive attitude and take the offensive for our own and the people's good. It is time to take up the cudgel and fight. Fight for the rights of the public which we serve, for the continued existence of a profession without which civilization can not continue to exist. Osteopaths, chiropractors and other irregulars are under no such inhibitions [against fighting for their causes] and they have prospered amazingly.

At the final reckoning will we be satisfied to say:

"I have finished my course"

or will we be able to proclaim,

"I have fought a good fight; I have kept the faith."

This journal has repeatedly protested, in its columns and directly, that the choice of such a name for the "Committee on the Costs (it was first 'Cost') of Medical Care," cast an injurious and unjust reflection on doctors; over and over has it pointed out that the cost of medical attendance increased less in recent years than did any other common necessity of life,—nothing at all compared with the increase in church dues and educational costs—and that practically all the discontent as to medical fees was worked up by agitators. Has any one heard of a Committee, a Foundation, or a Philanthropist urging the people to spend less for automobiles, radios or picture shows, or merchandise in general? And every form of high pressure advertising is made use of to induce greater expenditures for cigarettes, the only generally used commodity on which the price was advanced in the year 1931; and in that same year the prices paid the growers of the tobacco did not pay fertilizer and tax bills! Philanthropy? "Lord protect us from our friends; against our enemies we can defend ourselves."

From not a single doctor in the practice of general medicine have we heard the opinion that any further encroachment of any branch of government on the private practice of medicine would be to the advantage of either patient or doctor. Without exception

those whom we have found advocating that real doctors be placed on salary to be called at any hour of the night at the caprice of the ignorant, the indifferent and the spiteful, are either not practicing medicine at all, or they grant "Consultation by appointment only"! Early in the World War it was said that the French were determined to capture Berlin no matter how many Russians were sacrificed in the capture!

It is heartening to hear another strong voice out of the West lifted in the cause of the sovereign rights of States. *The Illinois Medical Journal* and some others have fought valiantly in this cause over many years. We trust these signs portend an alliance of the West and the South in the cause of local self government. As we declared to the meeting of the Tri-State Medical Association of the Carolinas and Virginia last February, all we want from Washington is postage stamps.

In the days of our prosperity the Government at Washington didn't know there was such a thing as a county line or even a State line. All of us were children the Great White Father on the Potomac was proud to claim—and tithe. But Time has wrought changes, and in our adversity we are told that we must look to county and State agencies for help. When better times come let's remember this. Foul weather friends are the ones to cleave to. Anyhow, Raleigh is far enough to go for government.

Within the present month when a member of one of our State commissions told us that the Commission of which he was a member had "treated doctors very liberally," our reply was, "We don't want liberality; we want justice." "Embarrassing gratitude" is recognized as mere lip service, base metal offered in lieu of the gold that doctors have earned and which they should act together to collect. Flattery at his graduation and at his funeral is poor recompense for abuse and injustice through the intervening years.

Newspapers can be brought into a relationship with medicine which will be far more satisfactory to both papers and doctors. Can it be doubted that material supplied through reputable medical societies would be more valued by papers and their readers than the opinions of any one man? Unfortunately to many of our best doctors the very mention of

doctors and newspapers in the same breath is rank treason. But all snakes are not poisonous. Most of them are helpful. In 1875, *The Medical Recorder* put it plainly and wisely:

"The time has passed to declare that it is wrong to publish any medical matter in the daily papers. There is some information which we can impart and to which the public are entitled, and it is just as much our duty to furnish such information, as it is to discharge any other professional obligation. We can perform our duties in this respect, however, with perfect consistency and without danger to our dignity. So long as a man speaks for his profession as a science, and not of himself, he is in no danger of overstepping this line. His personality must be lost in the natural modesty which belongs to one who is the mere exponent of a principle. The moment he by direct assertion or by implication makes it to appear that he is more learned, more experienced, or more successful than the rest of his brethren, he becomes no better than the meanest quack."

We earnestly urge that our own County societies in conjunction with the State Society start work right away along this line.

Hospitalization costs more than the most of our people can pay. We believe it would work better for all concerned and more cheaply for the different towns, cities, counties and the State to work out a plan by which hospitals already under operation could be paid for caring for patients. Patients get well or die just as comfortably in a simple brick structure as in a marble hall. Our hospitals are built on the Lincoln and Cadillac plan, when Chevrolets would answer every need, excepting that of vanity.

Few have failed to notice that, whenever the raising of more taxes is under discussion, Mr. Hoover and Mr. Mellon tell us that this must not come from "those in the higher brackets"—a euphemistic way of designating those the late E. A. Alderman once called the "disgustingly rich." In some mysterious way, they imply, the pillars would fall (or be pulled down?) if these petted plutocrats were peeved. But then, both these gentlemen are multimillionaires!, and the Senate of these United States is a Millionaires' Club. But another sound burdens the air, one which we

count on to fall more persuasively on ears so long deaf to every appeal in the name of Justice. The head of the American Federation of Labor announced to the Country some weeks ago that there would be rioting if relief were not forthcoming—and rioting means revolution. On November 8th a bishop of one of our most powerful and numerous Churches, himself a member of one of the wealthiest families in the Country, told a Conference of his Church that revolution would come unless the rich changed from their attitude of selfish indifference to the plight of the poor. If Goodness lead them not—there are other considerations.

More of the doctors of North Carolina must actively interest themselves in the affairs of their county and State societies, and in the filling of every office under the Government. The doctors of North Carolina can elect a majority of our officials—county, city and State—if we are willing to put forth a little united effort.

Let us awake to the necessity for action, put our trust in the leadership of men who are practicing medicine in the common acceptance of the term and follow that leadership, into the enemy's country if need be, or the calamities with which our would-be masters threaten us will surely be imposed upon us.

This journal has repeatedly pointed out that the reason why a few hundred irregulars are listened to by legislators is not that legislators care two straws about what cause is right, but that *they* act as a unit in their interests, while *we* go fishing on election day or turn the other cheek for another sound blow.

Are we too weak to fight? When shall we be stronger? When defeatist possessors of the degree of doctor of medicine in alliance with exploiting capitalists—turned philanthropists in their latter days, but, "the ruling passion strong in death," eager to distribute their alms out of other folks's pockets—have sapped our present strength and discouraged from studying medicine every prospective recruit to our ranks who sets any value on personal or professional liberty or dignity.

Here are plainly exposed many of the ills which beset us. Symptoms are brought ought, diagnosis arrived at, prognosis given and the proper remedy prescribed, with mode of administration. The disease is not so se-

vere or so far advanced that it will not respond to the remedy.

The remedy is—Fight.

FIRST-CLASS DOCTOR RENDERS FIRST-CLASS SERVICE

It can not be truthfully said that all doctors believe in ignoring the circulation of false statements calculated to injure medical men.

In the Winston-Salem *Journal and Sentinel* of August 23rd, under the name "Chas. H. Utley," there was carried a preposterous story that a Mt. Airy doctor called to see a child about to die of diphtheria: "turning to the anxious father, he asked, have you any money, the father answered no; then the doctor said this child will soon die if not vaccinated, go to your brother and either borrow \$7.70 to pay me for the vaccination, or have him sign a note with you to guarantee my pay otherwise I can not vaccinate the child"—[Quoted *verbatim ad litteram*, punctuation included.] Further—"The doctor waited," "and the little child lay before him struggling for breath and life. When the apparently heartless doctor had the money in his pocket he administered the antitoxin, the child was saved."

The *Literary Digest* of September 19th made a great to do in abstracting and commenting on this story. Is there no limit to the gullibility of *newsfolks*? Or is there some other explanation?

This absurd story constituted the background for a marvelous account of a venture in hiring a doctor by the year, a venture represented to have been a phenomenal success.

These libels on the doctors of his town and county came under the eye of Dr. Roy C. Mitchell of Mt. Airy, and he wrote the editor of the newspaper exposing the falsity of the antitoxin tale, and making it clear that the cause of health is best served in a more regular way. Demand was made on Mr. Utley that he name the "heartless" doctor; but without avail.

A copy of Dr. Mitchell's letter to the Winston-Salem paper was sent to the *Literary Digest*; whether any effort was made by that periodical to undo the mischief which must have resulted from its stupid (at best) action we do not know.

It is gratifying to find a member of the



DIABETIC patients require medical attention more or less constantly, so with the increasing number of cases physicians have a growing responsibility to know Insulin and its proper use.

For nine years leading specialists in diabetes have used Iletin (Insulin, Lilly) with good results. It was the first commercial Insulin available in the United States. Its purity, stability, and uniformity are characteristic.

SEND FOR PAMPHLETS ON INSULIN
AND DIET CHARTS

Eli Lilly and Company
INDIANAPOLIS, U. S. A.

profession of so exceptional training and native endowment came out on the side of those of us who have no faith in non-resistance. Dr. Mitchell renders a great service to his profession. Let each reader take note and render similar service as occasion offers.

IN WHICH A NEWSPAPER HELPS THE CAUSE OF RATIONAL MEDICINE

A few years ago this journal entered a mild protest at newspapers publishing sensational stories of wild rides to a distant city carrying children to have a famous specialist remove foreign bodies which were threatening to choke them to death. At that time we said that this operation was a mere commonplace, that a number of well trained specialists, competent to do such work were available in every State, and that many lives would be needlessly sacrificed by wasting precious time in taking the patients to any distant specialist.

Reading *Time*, Nov. 9th (which came to us the 6th or 7th), we came across, and made a mental note to call attention to, one sad instance of our prognostication coming true:

In Orlando, Fla., one day last week Marjorie Cohen, 3, tried to swallow a bean. It lodged in her windpipe. She choked. Her father called his physician; he could do nothing. Slowly Marjorie was choking to death. The only hope of saving her life was an operation with the bronchoscope developed by Dr. Chevalier Jackson of Philadelphia. Father Cohen carried his daughter aboard a fast train for Philadelphia.

Next morning Marjorie was gasping for breath. A doctor boarded the train at Richmond, gave her little more than an hour to live. Father Cohen wired for an airplane at Washington. An ambulance and motorcycle escort met the train at Union Station, rushed through the city to the airport. Pilot V. J. Lucas had a plane warmed up. He took off, opened the throttle, headed for Camden Airport. Sixty-two minutes later he landed dangerously in a head-wind. Still breathing, Marjorie was carried by ambulance to Jefferson Hospital. Surgeons were ready. An hour later the bean was removed. Father Cohen was joyful. Soon after that one of Marjorie's over-worked lungs collapsed, she died.

We shall undertake to give more information as to what happened at Richmond in our next issue.

Reading the *Charlotte Observer* Sunday morning (Nov. 8th) we were much gratified at finding that editorial column supporting the stand of this journal in a way well calcu-

lated to save lives and to stimulate confidence in our own specialists—a confidence which is richly deserved.

After recounting the story substantially as related above, *The Observer* goes on to say:

This performance is being justly criticized because of the wellknown fact that between Orlando and Philadelphia, facilities are available at many towns, . . . where operation of the kind required is not an uncommon occurrence, and that, if the patient had been delivered at any of these nearer places, her life might have been saved. The ignorance of the parents of provisions at nearer points might be excused, but what is to be said of the medical advisers whose counsel resulted in skipping over all these nearer "first aid" stations?

Elsewhere in this issue expression is given to the conviction that newspapermen and medical men should and can work together more intimately and to greater mutual satisfaction. *The Observer's* attitude in this case furnishes strong corroboration of that statement. We express our appreciation of this considerate and thoughtful expression. We welcome the powerful aid of the daily papers—all papers—in shedding light which can not fail to save lives over wide areas.

FLATTERING THE FAT

Body-weight depends on the relative amount of energy taken in and lost—potential energy being stored in the form of fats. The law of conservation holds in relation to stout persons whatever their own opinion of the matter.—Haliburton & McDowall's *Physiology*. 1931.

Few fat folks admit, what is known to all their friends, that the main element in the causation of their fatness is that they eat too much.

A considerable literature has accumulated devoted to the theme that there is little relationship between food and fat, that there is some mysterious something in the construction of the obese which enables them to manufacture this all too solid fat from the circumambient air, the water they drink, or maybe from the subconscious, from their repressions, or what not.

On this point we have always held with the unbiased physiologist, rather than the practicing physician who has flattered his more or less fair fat ones until he has come to believe that substance may be manufactured out of nothing.

Of course, human engines are like all other

The drought and pellagra

If history repeats itself, poverty and privation, due to the drought, will leave pellagra in their wake this spring—as after the Mississippi flood. Authorities agree that a preparation of yeast rich in vitamine-G (B_2) serves as the best preventive of, and treatment for pellagra. To relieve pellagra during the flood of 1927, Dr. Joseph Goldberger, the U. S. Public Health Service and the American Red Cross employed large quantities of Brewers' Yeast-Harris and Yeast Vitamine-Harris in the Southern States.

Their favorable reports thoroughly justified the use of these products. Brewers' Yeast-Harris and Yeast Vitamine-Harris differ from other preparations of yeast in that biological assay of the output proves them to be uniformly very rich in the pellagra-preventive principle, vitamine-G (B_2), and also in vitamine- B_{12} .

As a dietary adjunct, Yeast Bouillon Cubes Harris also furnish a dependable source of vitamine-B complex, containing both factors F and G in the form of a delicious broth.

To treat pellagra, prescribe 2 level teaspoonfuls of Brewers' Yeast-Harris two to six times daily.

YEAST VITAMINE-HARRIS

A Concentrate of
BREWERS' YEAST-HARRIS

Samples on request

THE HARRIS LABORATORIES



TUCKAHOE, NEW YORK

engines in that one will utilize fuel to better advantage than another, and this answers the smallest part of the question, "Why is it that though I eat a lot I don't put on flesh?" The largest feature is quantity and quality of food and the next largest is exercise.

We hold that it is wise for a doctor to attempt to ascertain the intent of Nature in each case; not to assume this person is really too fat, but to do his best to learn whether or not extra pounds are good for this individual; then to proceed cautiously with gradual reduction of food consumption.

Our own impressions as to the effect of exercise, undertaken with the end in view of reducing, agrees with an experience of Irving Cobb some years ago which he summed up by saying that it only made him eat two steaks instead of one.

ARE REPRINTS WORTH WHILE?

(WM. MARTIN, Atlantic City, in *Medical Mentor*, July-Oct. 1931)

When a reprint reaches the reader if it happens to be a topic that has a particular interest to the physician in question it is read and placed on file for future reference.

Do reprints pay? Consultations may result of a good presentation of one's ability as shown by a paper of merit, which will naturally come from the well informed physician and one who has had long experience.

Re prints have a distinct value when they contain the results of experience and are written with the view of offering something new, or which may otherwise be of definite value to the medical profession.

Considering reprints from various angles I feel that they are worth while and play a part in the advancement of knowledge. Let us continue to send them out then and more than that, let us read them and acknowledge them.

EDITORIAL NOTES

Too frequently do patients and members of their families take it for granted that the family doctor who has made the diagnosis referring a patient to a surgeon for an operation is evidence that the surgeon is the better doctor; which is no more reasonable than to assume that, because a good general mechanic sends a part that he knows needs welding to one who has provided himself with the

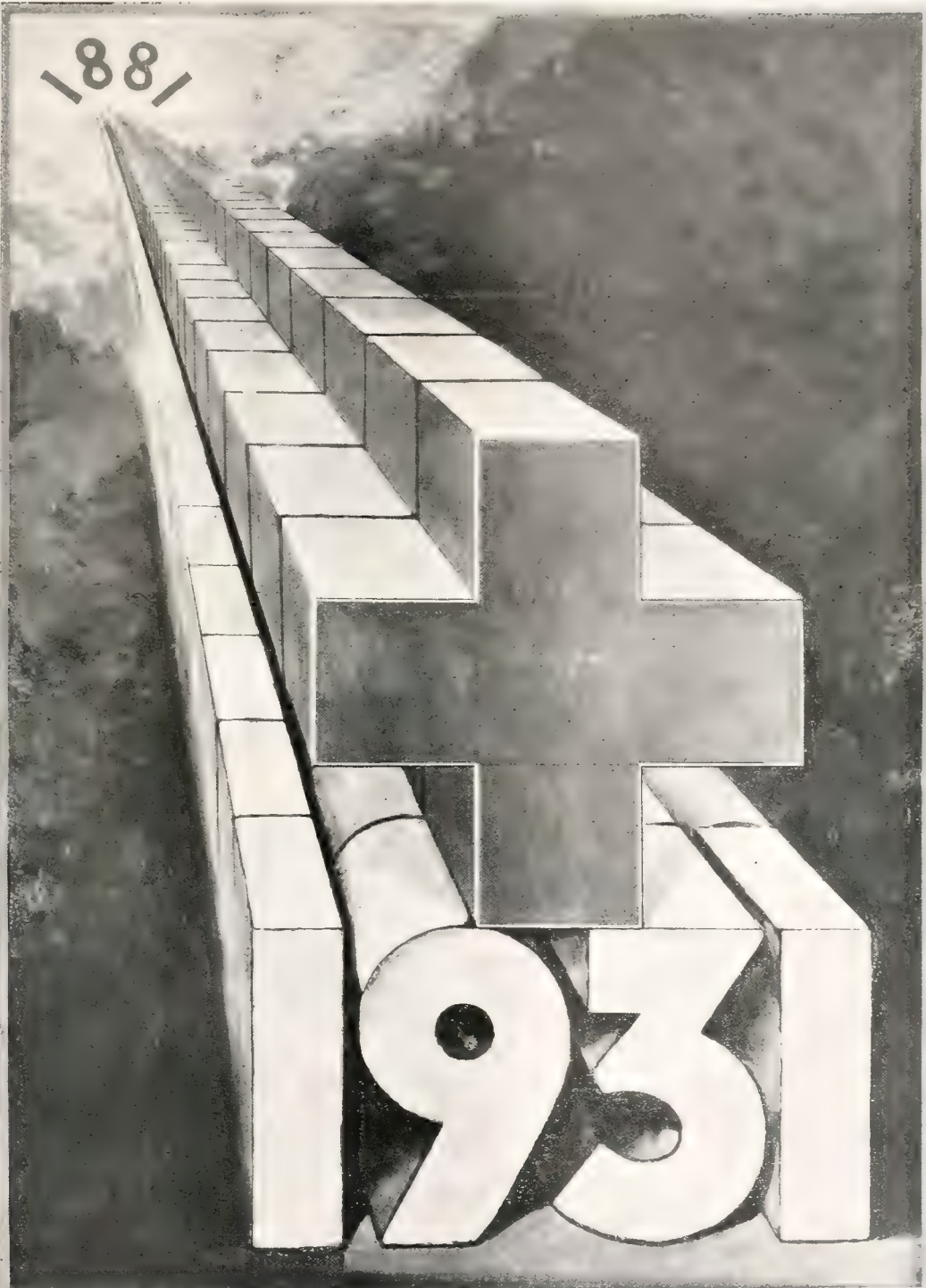
special equipment of a welder, the welder is more compable all along the line than is the general mechanic. Dr. Geo. Ben Johnston never neglected to emphasize that the diagnosis required more skill than the operation, nor to impress upon the patient that the family doctor was the most important member of the medical profession and, when the home doctor had made the diagnosis and referred the patient promptly. Dr. Johnston did not hesitate to tell the patient, "Your doctor has done more for you than I have, and he should be so compensated." Says Dr. J. J. Cobb (*N. E. J. of Med.*): "When the family physician by his general knowledge and diagnostic skill has recognized the fact that he has an acute dangerous condition to deal with, that a surgeon is needed at once, and calls one who does an operation that saves a life, it should be understood by all parties concerned, and generously acknowledged by the surgeon, that the physician has contributed as much toward the saving of such a life as has the surgeon. It is perfectly easy for the surgeon to leave that impression with the family if he wishes to do so."

As indications that copper and manganese serve some important functions in the human machine, much is appearing in our journals as to the value of copper in blood building and a whole book has come out in England on the value of manganese. Which brings us to the point of reminding that it is often wise to say: I don't know, I'll look into it.

As winter approaches it seems well to call attention to the danger of carbon monoxide poisoning and to warn doctors of the dangers of starting cars in closed garages. The treatment of monoxide poisoning is 95% oxygen and 5% carbon dioxide.

The collapse of stuffed shirts is always an agreeable thing to contemplate.—*Chapel Hill Weekly*.

Some readers will have heard something of the unsatisfactory experience of two Dunn doctors when summoned to appear and testify before a member of the State Industrial Commission some weeks ago. We had hoped to have an expression from the commission for this issue. More will appear in our next issue.



THE AMERICAN RED CROSS

Please Mention THIS JOURNAL When Writing to Advertisers

CONFEDERATE STATES MEDICAL AND SURGICAL JOURNAL

A copy of the *Confederate States Medical and Surgical Journal* has been presented to the Virginia State Library by Mrs. Samuel Bryan, of Titusville, Pa.

The *Confederate States Medical and Surgical Journal*, Dr. H. R. McIlwaine, State librarian, said, was published monthly in Richmond, from January, 1864, through February, 1865.

It was through the pages of this journal that Surgeon-General Thomas Preston Moore, of the Confederate States Army, undertook to supply as far as possible the lack of professional literature from which the members of the medical profession in the South suffered during the period of the war.

The copy now presented to the State Library is No. 8 of Volume I, and is the August, 1864, number. No copy of the publication has heretofore been owned by the State Library.

The copy presented by Mrs. Bryan was at one time the property of her uncle, Dr. James Dunn, who was a distinguished surgeon in the Confederate Army.

PRENATAL CARE AND THE CAREFUL CONDUCT OF DELIVERY

(M. C. Bergheim, Hawley, Minn., in *Minnesota Medicine*, October)

In 1923 only 15 per cent of my obstetrical cases were reporting for care. In 1929 those coming in for prenatal care had in six years increased from 15 to 83 per cent. Today I find that during the last two years 90 per cent. of all obstetrical cases delivered by me have appeared once or oftener for prenatal care; and over 50 per cent. of these reported before the end of the fourth month.

I have very little right as yet to quote any figures or draw any conclusions. I have, however, records of 1,342 cases. Among these I have had only one maternal death, and this was due to influenza contracted before delivery. There have been no cesarean sections; only one mutilation operation—this a case of anencephalon. I have had only four cases of eclampsia, each developing only one or two convulsions, and I have never had to do a therapeutic abortion. I have, indeed, been fortunate. But, if I have had a low mortality rate in this small series that is no guarantee that I will not lose a mother tomorrow, or next month, or two or three mothers by a year from now. But this I hope, that if I *do* lose any mothers it will not be because of my negligence.

NEWS ITEMS

(Dr. Jas. K. Hall, Richmond, and Dr. L. B. McBrayer, Southern Pines, contribute regularly)

MOUNTAIN MISSION HOSPITAL CLOSED

WALTER IRVING CLARK, Swarthmore, Penn.

The closing of Laurel Hospital in White Rock, Madison County, North Carolina, is announced by the Presbyterian Board of National Missions from headquarters in New York City. Good roads, buses and telephones have given those who live in this area access to city and town hospitals, so the maintenance of a 20-bed hospital for so small a community is no longer justified, the Board feels. A study of a wider area, of which White Rock is the center, is now being made to determine where and in what form medical work should be carried on to meet the needs of isolated districts without other available medical service.

The first operation was an appendectomy performed upon 70-year-old veteran of the Civil War on a kitchen table by the light of an oil lamp. Its success won the complete confidence of the people, and gave the Board a chance to put on a real medical program. Going to a hospital for treatment of minor injuries and seeking medical advice at the first stage of an illness are now principles among most of the people of Madison County. Parents have learned that something can be done about defective teeth or tonsils if immediate attention is given them, and take their children voluntarily for medical attention. Clinics were arranged for outlying communities at intervals throughout the year, and a definite check was kept on children in White Rock and nearby schools by special examinations, inoculations and regular weighing. Service of this kind the Board hopes to continue in any new program it may initiate.

Four doctors have headed the work at Laurel Hospital. The first was Dr. George H. Packard of Medford, Massachusetts, who retired in 1923. Dr. E. C. Holden took the position for a brief period. In 1925, Dr. Eva M. Locke, undertook the responsibility and remained until she was granted a leave of absence last year. Dr. Sarah Bowen, who replaced her, was physician in charge when the hospital was closed.

THE FIFTH DISTRICT (S. C.) MEDICAL SOCIETY held its annual meeting at Chester, Oct.



EVERY CHILD
deserves protection
from tuberculosis

Buy
CHRISTMAS SEALS

THE NATIONAL, STATE AND LOCAL TUBERCULOSIS ASSOCIATIONS OF THE UNITED STATES

Please Mention THIS JOURNAL When Writing to Advertisers

26th. Program: Dr. Hugh Smith, Greenville, Primary Hypochromic Anemia; Dr. W. J. Henry, Chester, Glandular Fever; Dr. Robert Seibels, Columbia, Use of a Perineal Retractor in Breech Deliveries; Dr. E. E. Herlong, Rock Hill, Kidney Colic—some of the Causes and Treatments; Dr. Robert W. McKay, Charlotte, Urological Problems of the General Practitioner; Dr. T. K. Pitts, Columbia, X-ray Pictures; Dr. W. E. Simpson, Rock Hill, Methods of Diptheria Immunization; Dr. Robert E. Abel, Chester, An Unusual Case of Intestinal Obstruction, and Dr. W. R. Wallace of Chester, Case Reports.

THE SEVENTH DISTRICT (N. C.) MEDICAL SOCIETY held its annual meeting at Albemarle, October 20th.

OFFICERS: Dr. R. M. King, Concord, President; Dr. W. T. Shaver, Albemarle, Vice-President; Dr. Chas. H. Pugh, Gastonia, Secretary; Dr. A. G. Brenizer, Charlotte, Councillor. Committee of Arrangements: Dr. D. B. Moore, Dr. V. L. Bigler, Dr. W. T. Shaver.

Papers: Arachnidism, Dr. A. M. Cornwell, Lincolnton; Rupture of Ovary, Dr. D. A. Garrison, Gastonia; Familial Ataxia, Dr. V. L. Bigler, Albemarle; Sodium Ricinoleate Treatment in Intestinal Diseases, Dr. J. W. Ormand, Monroe; Pregnancy Following Nephrectomy, Dr. Reid Patterson, Charlotte; Is Essential Hypertension a Surgical Condition?, Dr. W. A. Anthony, Gastonia; Trans-Urethral Prostatectomy, Dr. Theodore M. Davis, Charlotte; The Problem of Making Cystoscopy Painless, Dr. Hamilton W. McKay, Charlotte; The Value of X-Ray in the Diagnosis of Sinus Disease, Dr. F. E. Motley, Charlotte.

Dinner speakers were: Mr. Thomas Wolfe, Chairman Stanly County Brd. Com.; Dr. John Hill Tucker, Charlotte; and Dr. M. L. Stevens, Asheville, President North Carolina Medical Society.

THE SOUTHEASTERN SURGICAL CONGRESS

A statement by Dr. B. T. Beasley, Sec.-Treas., Atlanta, as to conception, purpose and progress:

1. That there is a place and practical demand for the type organization in the southeast that The Southeastern Surgical Congress is making an effort to be.

2. That the sponsors of the Congress are making

an effort to conduct it on a high plane.

3. That only high type surgeons are wanted as members and that membership is limited not necessarily by number, but by qualifications, thus limiting the number from each state to from 50 to 100.

4. That there is no need for haste in selecting members.

5. That the Congress will not tolerate commercialism.

6. That the Congress has for its aims and purposes: *a.* Education. *b.* Co-operation. *c.* Progress. *d.* To furnish a means for self expression. *e.* To conduct annual assemblies of a very high character. *f.* To publish proceedings and probably a journal.

7. That the Congress is self-supporting.

8. That we should strive towards the ideal and "go forward."

9. That the aims and purposes of the Congress should be given more publicity to the profession of the southeast.

10. That plans for the Birmingham meeting are progressing satisfactorily.

11. That there were prior to the formation of The Southeastern Surgical Congress, twenty-two surgical associations in the North for 20,000 surgeons or one surgical association to less than 1,000 surgeons and one surgical association in the South for nearly 12,000 surgeons. Thus giving the founders of The Southeastern Surgical Congress a logical excuse for the formation of another surgical association, which, according to Dr. Rudolph Matas, is in accordance with the laws of supply and demand.

The foregoing supplied through Dr. Russell O. Lyday, Greensboro, Chairman North Carolina State Committee of the Congress.

Other Carolina surgeons invited to attend the conference at Atlanta, October 3rd, to plan for the 3rd meeting, to be held at Birmingham next month, were: Dr. D. B. Cobb, Goldsboro; Dr. J. D. Highsmith, Fayetteville; Dr. W. M. Scruggs, Charlotte; Dr. Julian A. Moore, Asheville; Dr. W. H. Sprunt, jr., Winston-Salem; Dr. J. W. Davis, Statesville; Dr. G. T. Tyler, Greenville; Dr. F. H. McLeod, Florence; Dr. J. R. Young, Anderson; Drs. Johnstone Buist and J. S. Rhame, Charleston; Dr. J. R. Sparkman, Spartanburg, and Dr. LeGrand Guerrey, Columbia.

THE AMERICAN COLLEGE OF PHYSICIANS

The Sixteenth Annual Clinical Session of the American College of Physicians will be held in San Francisco, April 4th-8th, 1932, headquarters Palace Hotel, clinics in various hospitals.

Following the San Francisco Session a tour will be conducted through Yosemite Valley,

Colloidal IRON therapy



represents a significant advance over the old iron preparations. The colloidal iron solutions known as

Prescribed
in 8 oz.
bottles



Dose:
dr. i. t.i.d.
p. c.

—neutral, and containing 5% of iron—is an active iron preparation, indicated in all those conditions where iron is needed.

IDOZAN makes “new blood,” better blood; thus acting as a dependable “iron tonic.”

STERLING & JENSEN

Sole Agents for U. S. A.

Rockville Center

New York

Literature and sample on request

Southern California (with two days in Los Angeles), and the Grand Canyon of Arizona.

The attention of the secretaries of various societies is called to this in the hope that their societies will select non-conflicting dates for their 1932 meetings.

AMERICAN BOARD OF OTOLARYNGOLOGY

An examination was held in Indianapolis, Indiana, September 12th, 1931. Forty-three candidates were examined, of which nine were conditioned or failed.

The Board will hold an examination in New Orleans on May 9th, during the meeting of the American Medical Association, and in Montreal, next fall, just prior to the session of the American Academy of Ophthalmology and Otolaryngology.

Prospective applicants for certificates should address the Secretary, Dr. W. P. Wherry, 1500 Medical Arts Building, Omaha, Nebraska, for proper application blanks.

H. P. MOSHER, M.D.
President

W. P. WHERRY, M.D.
Secretary-Treasurer.

CUMBERLAND COUNTY

Dr. J. F. Highsmith, sr., who suffered a fractured patella several weeks ago is able to again be out.

Dr. P. J. Chester of Fayetteville has recently moved to Southern Pines where he will practice his specialty of eye, ear, nose and throat.

Major E. A. Coats, jr., U. S. A., who has been stationed at Fort Bragg for several years has been transferred to Fort Humphries.

Major G. H. Boyer, U. S. A., Fort Bragg, has been transferred to Hawaiian Islands.

The Cumberland County Medical Society received three new members at their regular September meeting. Dr. Wade T. Parker, graduate of Charleston Medical College; Dr. Duncan S. Owen, graduate Maryland School of Medicine and Dr. William C. Highsmith, graduate University Cincinnati. All three of these men will practice their profession in Fayetteville.

RANDOLPH COUNTY MEDICAL SOCIETY re-organized recently with Dr. C. C. Hubbard,

Farmer, president; Dr. J. V. Hunter, Asheboro, vice-president; Dr. J. Robt. Johnson, Ramseur, secretary-treasurer.

ALAMANCE-CASWELL (N. C.) MEDICAL SOCIETY, meeting at Haw River, October 15th, heard Dr. Amzi J. Ellington, Burlington, on Squint, and Dr. Jas. M. Northington, Charlotte, on Standing Up for Ourselves.

L. RICHARDSON MEMORIAL HOSPITAL (for Negroes), Greensboro, has been awarded the full approval of the American College of Surgeons for the year 1931. The hospital is fully approved for interne training, and now has two internes on its staff. Dr. C. C. Hudson is chief of staff and Dr. S. P. Sebastian, staff secretary and medical director.

DR. A. C. DUNCAN, Forest City, N. C., has discontinued his general practice, and now confines his practice to diseases of the eye, ear, nose and throat.

DR. J. D. HIGHSMITH, Fayetteville, attended the meetings of the American College of Surgeons at New York, and the International Post Graduate Medical and Surgical Assembly of the United States and Canada, at Milwaukee.

DR. J. F. BREWER, Asheville, died October 24th, after a brief illness. Dr. J. F. Brewer, jr., Greenwood Mountain, Maine, is a surviving son.

DR. W. P. RICHARDSON has recently removed from Lenoir to 624 Irving Street, Winston-Salem.

On DR. C. H. PUGH, Gastonia, has been conferred the 33rd degree in Masonry. Dr. Pugh entered Masonic work in 1910, has held many high positions in local and State Masonry, and is the first Mason in Gaston County to receive this distinguished honor.

Among NORTH CAROLINA DENTISTS who took part in the clinics before the American Dental Association at Memphis were Dr. F. O. Alford and Dr. H. E. Story, Charlotte, Dr. H. K. Thompson, Wilmington, and Dr. L. G. Coble, Greensboro.

DR. GEORGE WASHINGTON ISAAC, 74,

graduate of Edinburgh, long a Fellow of the Medical Society of London, "a strong individualist and devoted to the daily work of his profession," died at his home in Grover Street, London, Sept. 24th.

DR. DOUGLAS JENNINGS, Bennettsville, S. C., has announced the limitation of his practice to surgery, gynecology and institutional obstetrics.

DR. TOM A. WILLIAMS, Washington neurologist, has moved to The Esplanade, Miami Beach, Florida.

DR. MICHAEL HOKE, a native of Lincolnton, N. C., has been appointed surgeon-in-chief of the Georgia Warm Springs Foundation. Dr. Hoke is a past president of the American Orthopedic Association and a resident of Atlanta, Ga.

DR. A. WYLIE MOORE, Charlotte, announces the removal of his offices to the First National Bank Building.

DR. VIRGIL HAMMER, of Luray, Va., was held up near his home, when he was returning from a professional call in the county about 2 a. m., Sept. 24th. About three miles west of Luray he noticed a car that seemed to be in trouble. As he slowed up a Negro jumped on the running board and demanded the doctor's pocketbook. Another Negro sat in the car with the engine running. The doctor pushed the Negro off with his elbow and drew his revolver and discharged it in the direction of the fallen Negro. No trace has been found of the men.

Our Medical Schools

SOUTH CAROLINA

The College opened its 103d annual session on September 24th with a full enrollment. Brief addresses were made by Dean Robert Wilson and Dr. Kenneth M. Lynch at the opening exercises.

The college library and the department of pathology are now housed in a new building, this building having been ocompleted and the move effected during the summer. Space released by these departments in the main

The Tulane University of Louisiana
GRADUATE SCHOOL of MEDICINE

Approved by the Council on Medical Education of the A. M. A.

Post-graduate instruction offered in all branches of medicine.

Courses leading to a higher degree have also been instituted.

A bulletin furnishing detailed information may be obtained upon application to

THE DEAN
GRADUATE SCHOOL OF MEDICINE
1430 Tulane Avenue, NEW ORLEANS, LA.

building has allowed needed expansion of the departments of anatomy and clinical pathology.

Dr. Robert L. McCrady has been promoted to the position of Assistant Professor of Gynecology and Obstetrics.

The department of roentgenology of the Roper Hospital and the Medical College is now under the charge of Dr. Hillyer Rudasill, formerly of the staff of that department at the University of Chicago.

Dr. Charles W. Kollock, Professor of Rhinology and Laryngology until a year ago, and Emeritus Professor since that time, died on September 23d at the age of 74 years.

MEDICAL COLLEGE OF VIRGINIA

Construction of the College library, which will adjoin the library and home of the Richmond Academy of Medicine and be built at the same time, has begun. There will be ample offices, work rooms, a reference room, a large general reading room, five seminar rooms, and an attractive faculty room. Three stack levels will be equipped at this time and it will be possible to add two additional stack levels. The total housing capacity for books will be approximately 100 thousand volumes.

The St. Philip Hospital school of nursing dormitory and educational unit, toward which the General Education Board and the Julius Rosenwald Fund contributed \$120,000, were formally opened November 10th. Dr. J. H. Dillard, Charlottesville, was the chief speaker. Brief remarks were made by Miss Elizabeth F. Miller, secretary of the Pennsylvania

State Board of Examiners for Registration of Nurses, and Miss Charlotte Pfeiffer, representing the Virginia State Board of Nurse Examiners. Dr. W. T. Sanger, president of the college presided. This unit accommodates 94 student nurses and staff members and provides one whole floor for teaching and recreational purposes.

President Sanger and Dr. William B. of the college, using lantern slides to demonstrate his remarks. Dr. Porter read a paper at the Kanawha Medical Society which met following the alumni dinner.

Admiral Cary T. Grayson, of Washington, has accepted the invitation to deliver the founder's day address of the College on December 1st. These exercises will be held at Monumental Episcopal Church at noon on that day.

DUKE

On October 1st the second year of the medical school began and 145 students of all four classes were registered.

The Nurses' Home, which is now under construction, is progressing rapidly and will accommodate approximately 230 nurses. The general plan is similar to that of the other dormitories on the campus.

On October 9th a clinic on undulant fever was given at the Duke Hospital by Dr. J. Powell Williams and Dr. Frederick W. Shaw, of Richmond, which was attended by many members of the veterinary profession of the State of North Carolina.

BOOK REVIEWS

AN INTRODUCTION TO THE LITERATURE OF VERTEBRATE ZOOLOGY based chiefly on the titles in the Blacker Library of Zoology, the Emma Shearer Wood Library of Ornithology, the Bibliotheca Osleriana [the Gest Library of Chinese Literature], and other Libraries of McGill University, Montreal, Canada. Compiled and edited by CASEY A. WOOD, M.D., LL.D., Collaborator, Division of Birds, Smithsonian Institution. 4to, pp. xix+643. Col. frontispiece. *Oxford University Press*, London, 1931. Fifteen dollars or three guineas.

Among the earliest zoological records are paintings of birds found on the walls of caves in France and Spain, which date from the Glacial Period. Division is made into three main sections. The first is a brief account of the literature of Vertebrate Zoology from the earliest times—from the writings of Aristotle, Pliny the Second, Dioscorides, Constantinus Africanus and others, to the more important treatises and monographs on ornithology and nearly related subjects of the twentieth century. An account of the work of medical zoologists, some of it by no means to be despised,—one of these was Gesner and another da Vinci—keeps the connection. The 16th Century alliance of medicine with biology resulted in the founding of academies, societies and museums for the study of nature. The literature of comparative zoology from Galen, through Leeuwenhoek, John Hunter, His, Darwin, Haeckel, Spencer, Agassiz, Malpighi and Wyville Thomson, makes a fascinating historical sketch. The earlier contributions were made by medical men, mostly because dissection of the human body was forbidden, and so it was necessary to learn practical anatomy by the dissection of other animals. Chapter V, devoted to scientific expeditions, recalls for Linnaeus is recognized in a chapter head, "Forerunners, Contemporaries, Followers and Successors of Linnaeus." Then came pages on animal classification, animal painters, and illustrators, books on hunting. The transition from natural philosophy to modern biology is traced swiftly and clearly. Among contributions to the literature of zoology in the 19th and 20th Centuries are accounts of local fauna and treatises on protection of animals. Here the labors of the loved Audubon stand out. Now come chapters which introduce us to writings on the geographical dis-

tribution of animals, on fishes and reptiles from the earliest times, oriental literature on zoology. Closing chapters treat of zoological periodicals, and unique and rare printings, manuscripts and drawings in the Zoological Libraries of McGill University.

Appended are: A Students' and Librarians' Index to Short Author-Titles arranged Geographically and in Chronological Order, and A Partially Annotated Catalogue of Titles on Vertebrate Zoology in the Libraries of McGill University.

The developing general interest in the study of natural history, the increasing recognition of its place as an essential in public-school education, the special importance to medical men that the whole of society be grounded in its fundamentals, and a proper pride in the accomplishments in this field of our brethern in former times—all these considerations should influence physicians to take an active interest in the diffusion of such knowledge as is here so well compiled.

MEDICAL JURISPRUDENCE, by ALFRED W. HERZOG, Ph.B., A.M., M.D., Honorary Academician of the International Academy of Letters and Sciences, Editor of the *Medico-Legal Journal*. *Bobbs-Merrill Company*, Indianapolis, 1931. \$15.00.

The author has seen that a doctor badly needs to know certain things about the Law and he sets about making this knowledge available.

The first division treats of what the doctor will need to know in his relation with coroners inquests, post mortems, signs of death and changes following death, the need for preserving evidence, opinion (expert) evidence, rights and duties of the physician, medical cults, dying declarations, malpractice, liability of hospitals, x-rays, identification. Part two deals with injuries to the person, diseases and insurance, and attractive subdivisions inform on malingering, confessions, lie detectors, truth serums, mental unsoundness, sex relations, criminology and toxicology follow in this order.

The arrangement is more after the order of the law book than of the medicine book. The wealth of case citations enhances the value of the work to lawyers. Its clearness and conciseness, as well as the wise choice of subjects to be treated of, recommend it to every man practicing medicine in these troublous times.

TREATMENT OF INJURY BY THE GENERAL PRACTITIONER, by CLAY RAY MURRAY, M.D., F.A.C.S., Assistant Professor of Surgery, College of Physicians and Surgeons, Columbia University; Associate Visiting Surgeon, Presbyterian Hospital, New York City. 196 drawings by the author. In 2 volumes. *Harper & Brothers*, New York and London. 1931. \$5.00.

Designed to tell how a general practitioner, reasonably equipped with appliances, should manage injuries, as is to be expected, this is no render-first-aid-then-refer counsel. What to do and how to do it are what it aims to tell. There is little of superfluous speculation as to what one may do or may try. As indicated one is told what *not* to do. The spectacular blood transfusion is not recommended to the exclusion of the everyday salt solution. Well dealt with is the problem of overcoming the mental difficulties which stand in the way of a patient going back to work after an injury.

A sentence which illustrates the balance of the author is:

I feel that soap and water cleansing of the wound and the skin about the wound is the most important single factor in the treatment of wounds.

Fractures and dislocations are covered remarkably briefly and remarkably effectively; the drawings are cleverly done. It is pointed out that fractures and dislocations of the spine are far more common than is usually thought; the reader is told to be on the lookout for them, and how to recognize and manage them. Caution is given that patients who have shown marked signs of intracranial damage should be kept quiet in bed for at least four weeks, whatever the x-ray findings.

Two little volumes of the greatest daily value to the man in general practice, to encourage him, caution him and tell him how.

A THOUSAND MARRIAGES: A Medical Study of Sex Adjustment, by ROBERT LATOU DICKINSON and LURA BEAM. Foreword by HAVELOCK ELLIS. *Williams and Wilkins Co.*, Baltimore. 1931. \$5.00.

This study is not intended to be taken as representing the average. It contains an excess of accounts of unhappiness, even sordidness, from the very fact that the experiences are those of patients of a gynecologist. The stories of these more or less shipwrecked ones should serve to warn others as to where lie the rocks. Many of the most serious results grew out of very trifling beginnings which could have been easily corrected early.

First a section is devoted to the normal; then a discussion of brides, frigidity, passion, dyspareunia, adjustment, fertility, widows, fear, the conflict of education, separation and divorce.

A study of these experiences can not fail to aid family doctors and specialists, not only those who treat wives and widows, but husbands and widowers as well, indeed women and men generally.

PHARMACOTHERAPEUTICS: Materia Medica and Drug Action, by SOLOMON SOLIS-COHEN, M.D., and THOMAS STOTESBURY GITHENS, M.D. *Appleton and Co.*, New York and London. \$15.00.

The book is well conceived to cover the field of pharmacology, without going into details of little concern to the practitioner; and of materia medica and therapeutics, with no more than a well justified trust in the efficacy of drugs. Means and principles are described and the viewpoint is strictly that of the practice of medicine. Due regard is paid to the necessity that the reader understand the meaning a writer wishes to convey and many terms are defined. Disease and Recovery, Indications and Contraindications, Drug Influence, Sources and Uses, Antipathogens, Tissue Alterants, Function Modifiers—are chapter heads.

Details of treatment are given in a way to make for the greatest good to the patient and to gladden the heart of the doctor whose college has given him but a perfunctory course in therapy. The more than 2000 pages are filled with information for everyday use, and it is ready to use without collateral reading; and being printed on very thin paper the volume is of the size of Gray's Anatomy.

APPROVED LABORATORY TECHNIC: Clinical Pathological, Bacteriological, Serological, Biochemical, Histological. Prepared under the Auspices of The American Society of Clinical Pathologists by JOHN A. KOLMER, M.D., Dr.P.H., D.Sc., LL.D., Professor of Pathology and Bacteriology, Graduate School of Medicine, Univ. of Penn. and FRED BOERNER, V.M.D., Associate Professor of Bacteriology, Graduate School of Medicine, Univ. of Penn. assisted by C. ZENT GARBER, A.B., M.D., Associate in Pathology, Peiping Union Medical College and Committees of the American Society of Clinical Pathologists composed of Drs. J. H. BLACK, H. J. CORPER, A. G. FOORD, A. S. GIORDANO, F. W. HARTMAN, P. HILLKOWITZ, R. A. KEITY, R. A. KILDUFFE, K. M. LYNCH, A. H. SANFORD and F. E. SONDERN.

11 colored plates and 300 illustrations in the text. *D. Appleton and Co.*, New York and London. 1931. \$7.50.

This manual is intended to establish standards in laboratory examinations and to promote a wider application of clinical laboratory methods and more intimate working together of the bedside and the laboratory doctor. The names of the makers and endorser assure the value of the product. Certainly there are few who are possessed of such a combination of profundity of knowledge and facility of concise and clear expression, as is Dr. Kolmer. The description is plain to anyone who would be interested in the subject, yet it represents the last word in technique and interpretation.

Elegy in a Tourist Camp Ground
(Anonymus)

The Klaxon sounds the knell of parting day,
Some late arrivals through the dust clouds creep,
And three hours after we have hit the hay,
The noise calms down so we can get some sleep.

Save where, from yonder pennant-clad sedan
The radio set emits its raucous squeal.
And underneath a nearby light, a man
Pounds 'til daylight on a busted wheel.

Beneath those tattered tops, those patent tents,
Where falls the dust into each sunburned pore,
Each on his folding bed of slight expense
The rude explorers of the highway snore.

Let not ambition mock their creaky cars,
Their khaki clothes of vintages obscure,
Nor grandeur view, with hauteur like a czar's,
The short and simple flivvers of the poor.

The boats of shiny paint, the pomp of power,
And all that charms the motoristic fop,
Await alike the inevitable hour—
The paths of touring lead but to the shop.

Can streamline hoods or silver-plated hubs
Back to its mansion call the missing spark?
Can plush upholstery foil the clumsy dubs
Who bang into your fenders in the dark?

Full many a boob of purest ray serene
Succumbs each summer to the touring itch;
Full many a car is doomed to blush unseen
And waste its sweetness in a Western ditch.

Robert Quillen's *Aunt Het* says: "Doctor Tom won't never get paid. You can't show off by payin' the doctor like you can by havin' a swell funeral."

EARLY DIAGNOSES OF EARLY TUBERCULOSIS

(G. L. Stivers, Saranac Lake, in *Med. Times and Long Island Med. Jour.*, Nov.)

Make a complete examination with x-ray, sputum, blood and tuberculin tests at the first visit, if there are any symptoms that would indicate the possibility of the presence of tuberculous disease.

The physician must have diagnostic facilities available for complete examination, remembering always that your patient looks to you for truthful guidance.

Recognize fatigue, loss of strength and weight as frequent symptoms of early tuberculosis; before cough, expectoration and night sweats of advanced disease have become too plainly evident.

Laryngitis, indigestion, pleurisy with effusion and fistula in ano are symptoms very often associated with early tuberculosis and indicate that a more thorough examination of the patient should be made.

Hemoptysis is a dangerous symptom and the case has usually progressed beyond the early stage. Do not expect too much help from the x-ray.

Tabulate all your evidence for a final decision and when your summary is complete, then, and not until then, give a diagnosis.

MEDICAL GRADUATES FOR PARLIAMENT

(*The Lancet* (London), Oct. 24th)

Seventeen members of the late House of Commons held a medical qualification. Two have been re-elected without opposition. Twelve others are standing for re-election along with 11 new candidates most of whom have contested Parliamentary seats before.

CASE OF CINCHOPHEN POISONING

(Emil Bogen, Los Angeles, in *California & Western Med.*, Oct., 1931)

Despite the efficacy of cinchophen and its derivatives in controlling pain its toxicity renders it far too dangerous to use in clinical conditions that are otherwise associated with almost no fatalities. Neither small dose, intermittent administration, nor early discontinuance provides any security. The use of these drugs is fraught with definite danger of fatal consequences in a proportion too high to be ignored. The physician is not justified in subjecting the patient to so great a risk. "*Primum nil nocere.*"

(Lawrence Parsons and Theodore Kimball, Los Angeles, *IDEM*)

Perhaps it may be better to substitute for its use neocinchophen. No fatalities have so far been reported from this drug.

Fever.—An elevation of the body-temperature above the normal.

Temperature.—The degree of intensity of heat of a body.—GOULD.

Absolute zero is taken to be 273° below zero Centigrade (about 460° below zero F.) Anything above this is "temperature."

PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., Supt.)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., CHIEF

EVERETT F. LONG, M.D.

HARRY L. BROCKMANN, M.D., F.A.C.S.

O. B. BONNER, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

OREN MOORE, M.D., F.A.C.S.

*CHIEF of CLINIC, Emeritus**Obstetrics and Gynecology*

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

MISS FANNIE AUSTIN, Nurse

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*CHARLES S. MOSS, M.D. *Surgeon*

O. J. MacLAUGHLIN, M.D.

*Ophthalmologist**Oto-Laryngologist*

H. CLAY CHENAULT, M.D.

*Associate Urologist*MISS ETTA WADE *Pathologist*

INTERNAL MEDICINE

JAMES M. NORTHINGTON, M.D.

Diagnosis and Treatment
in

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park

Arkansas

JAMIE W. DICKIE, B.S., M.D.

INTERNAL MEDICINE
DISEASES OF THE CHEST

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

Medical Arts Bldg.

Charlotte

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.—HARRY WINKLER, M.D.

Practice Limited to
ORTHOPEDIC SURGERY and FRACTURES

125 W. Franklin Ave.

Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761

Burlington

North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J

3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

Telephone: Office—4063

Hours—9 to 5 and by Appointment

219-23 Professional Bldg.

Charlotte

HOUSER CLINIC

FOR TONSILS AND ADENOIDS
Consultation 219 Professional Bldg.

411½ N. Tryon St.

Phone 4063

FOR SPACE RATES

Address

806 Professional Building

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

NERVOUS AND MENTAL DISEASE

ADDICTIONS

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.

RAYMOND THOMPSON, M.D.

CLAUDE B. SQUIRES, M.D.

THEODORE M. DAVIS, M.D.

Prostatic Resection and Operative Cystoscopy:

THEODORE M. DAVIS, M.D.

CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology:

ROBERT H. LAFFERTY, M.D.

CLYDE C. PHILLIPS, M.D.

Proctology:

L. D. McPHAIL, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone 2-2445

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay

Dr. Robert McKay

DOCTORS McKAY and McKAY*Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.

Charlotte

Residence Phone 1858

Office Phone 1857

W. B. LYLES, M.D.

Practice limited to

UROLOGY and UROLOGIC SURGERY

Hours 9-5—Sundays by Appointment

221 East Main Street

Spartanburg, S. C.

BROCKMAN'S PROCTOLOGIC CLINICTHOS. BROCKMAN, M.D., *Director**PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM*

Colonial Apartments

Greer, S. C.

WYETT F. SIMPSON, M.D.*GENITO-URINARY DISEASES*

Phone 1234

Hot Springs National Park Arkansas

SURGERY**ADDISON G. BRENNER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building Charlotte

R. B. McKNIGHT, M.D.*SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30—5

Professional Building Charlotte

WILLIAM FRANCIS MARTIN, M.D.*GENERAL SURGERY
GYNECOLOGY*

Professional Building Charlotte

WM. MARVIN SCRUGGS, M.D., F.A.C.S.*SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building Charlotte

HAROLD GLASCOCK, M.D.*GENERAL SURGERY and
DIAGNOSIS*

Office At

Mary Elizabeth Hospital

Raleigh, N. C.

SOUTHERN MEDICINE and SURGERY

Vol. XCIH Charlotte, N. C., December, 1931

No. 12

Diagnosis and Treatment of Acute Intestinal Obstruction*

HERBERT A. CODINGTON, Ph.C., M.D., Wilmington, N. C.

Acute intestinal obstruction is a condition which results in a 50 per cent. mortality in some of our best clinics,—for this reason it merits our careful study. Especially is this true as we know that this mortality rate can be markedly reduced by the early recognition and proper treatment of the condition, one in which the watchful waiting policy is never justified after the diagnosis has been made.

This condition may be defined as simply an occlusion or obstruction to the passage of contents through the intestinal tract, giving rise to acute symptoms, the cardinal signs and symptoms being colicky abdominal pain, nausea, vomiting, obstipation, abdominal distention and general toxemia.

Diagnosis is not always easy in the early stages; but in the past five years extensive studies in blood chemistry and roentgenology have aided us considerably. From the history we may learn of former operations, herniae, gall-stone attacks, and other local lesions. Obstructions may be adynamic (paralytic), dynamic (spasmodic), or mechanical. Dynamic and adynamic types are due to trauma of the brain or cord, prolonged or rough handling of the intestines, renal or hepatic colics, peritonitis, syphilis, pneumonia and other infections. The mechanical type is caused by internal or external herniae, bands, adhesions, volvulus, atresia of an intestinal segment, stenosis, intrinsic or extrinsic tumors, invaginations, or other such conditions.

Laboratory tests are most helpful in the diagnosis. The non-protein nitrogen is increased, the carbon dioxide combining power of the plasma is increased, with a marked decrease of the chlorides (alkalosis), and the blood sugar is increased. The hypochloremia is probably the most important, and these tests combined with the history will almost make a diagnosis certain.

The x-ray film is helpful, and has often shown an early obstruction when the diagnosis was doubtful. The flat plate may be used in very ill patients and with a delay of only a few minutes, the study of the accumulations of gas may show the point of occlusion, or, if the patient can stand up for the plate, study will show gas accumulations above areas of fluid.

In the usual mechanical type, the pulse and temperature are at first normal, rising as strangulation begins, and as intoxication or peritonitis is set up. Vomiting begins early and is frequent in high occlusion, first being food, then bile, then brown intestinal contents, and finally fecal in character. This appears much later in low occlusion and valuable time may be lost in waiting. Tympanites is present early in low obstruction, but in high occlusion may not be noticed for several hours. Abdominal pain is quite characteristic and usually the first symptom. It is colicky and periodic, occurring only when peristalsis attempts to overcome the obstruction. Auscultation over the abdomen reveals marked borborygmus, and Deaver has called attention to a peculiar tinkling sound when the ear is pressed over the abdomen. The increased peristalsis is seen when the abdomen is rubbed lightly. This may be called the stormy abdomen, and thus differs from the paralytic type of obstruction known as the silent abdomen—no peristalsis seen, and no sounds heard. Also in the adynamic type, vomiting may be absent or only slight, while distention is marked.

Obstipation usually comes on with the obstruction unless it is high, then several movements from passage of matter along the gut distal to the occlusion may mask the diagnosis. If it is the mechanical type of obstruction, one should determine the location of the

*Presented to the Old North State Medical Society, meeting at Wilmington, June 17th, 1931.

occlusion, as precious time may be saved at the operation, for speed and gentleness are imperative in these toxic patients. The severity of the symptoms vary with the distance of the obstruction from the pylorus the nearer to the pylorus the more severe and the more rapidly fatal the outcome. Also we know that an obstruction usually is found at the site of some previously existing lesion. Obstruction of the colon shows a slower progress and less violent symptoms, the cecum is distended and gaseous waves can be heard passing from the midline to the right iliac fossa and there disappearing. If in the small intestine, the circulatory apparatus is soon affected and insufficient, peristalsis increases, intoxication develops rapidly, colic is more intense.

Treatment is preoperative, operative and postoperative.

We are beginning to know more about just what happens to the patient with obstruction, and to realize that we must do more than to just relieve the obstruction, indeed that it is wise frequently not to interfere with the obstruction in desperately ill patients. The laboratory findings are at this time pertinent. The leucocyte count remains normal if inflammation is not present. The red count is about normal. The non-protein nitrogen of the blood shows a marked increase, due mostly to urea increase. The blood chlorides are reduced. The carbon dioxide combining power of the blood is increased. The urine is scanty and may contain albumin, and there is slight decrease in renal function.

Also the prophylactic treatment is important, *i.e.*, in operations, care, gentleness, moisture and heat, to prevent adhesions and herniae. Once an acute intestinal obstruction, operation is inevitable, and the earlier the better; but the patient should first have his general condition improved. This is done by giving hypertonic salt solution intravenously, preferably 3 to 5 per cent. solution, although some men give as high as 20 per cent. 50 gms. of sodium chloride in solution may be given in 24 hours. If the chlorides are very low and the non-protein nitrogen high, it is often a life-saving procedure. If there is great pain, and peristalsis is active and the diagnosis definite, morphine should be given to prevent shock, glucose if the blood sugar is not above normal. Just prior to the operation gastric

lavage should usually be done, especially before a general anesthetic.

Spinal anesthesia is the choice, as danger of lung complications and shock is less. Furthermore, there is less straining by the patient and the abdomen is quiet, thus permitting more careful handling of the intestines.

The operation divides itself into three phases: relief of the obstruction itself, evacuation of the stagnated bowel content and restoration of the intestinal lumen. Often, due to the severity of the condition, relief of the stoppage is all that should be done. If the disease is in the last stages this should be done with simple enterostomy, cecostomy, or colostomy, with subsequent support of the hepatic cells and circulation, and relief of the toxemia. In desperately ill patients, operative procedure should consist of a simple enterostomy, which may be done under local anesthesia, making a small incision, bringing a presenting dilated loop up, placing a purse string suture, opening the gut with cautery, inserting a large tube (plain or mushroom), tightening the suture, and fastening against the peritoneum and abdominal wall. Lavage through this tube as well as orally, with supportive treatment, will frequently save life in a desperate case.

If the patient is in fair condition, a more satisfactory operation may be done. The usual incision is just to the right of the umbilicus, pulling the rectus to the right and opening beneath. Now we can explore the cavity, sever obstructing bands, drain pockets of pus which have caused paralysis of the gut and, if necessary, do an enterocolostomy or enteroenterostomy with a Murphy button, or do whatever is necessary that can be done quickly. If there is great distention, finish with an enterostomy in the distended gut. It may be necessary to resect necrotic bowel and leave a gun-barrel enterostomy, but I would always advise a secondary enterostomy to prevent the distended bowel from tearing through the stitches if an anastomosis has been done. Also it is frequently wise to remove gas from the bowel at the time of operation, but this is dangerous due to the probability of soiling the peritoneum.

Just how much can be done and should be done depends upon the condition of the patient and the type of obstruction. Technical skill of a high order is demanded, and this

skill must be guided by a nicely adjusted judgment. My method of choice in very ill or far advanced cases is to close the peritoneal wound and leave exposed a portion of the loop which has been selected, to open about six hours later. Then the intestine may be cleansed and emptied by introducing a catheter.

Postoperative care resolves itself into three heads: 1—emptying and cleansing the intestine involved, as well as washing the stomach and keeping it clean with repeated washings or the use of the Levin tube; 2—replenishing the body fluids lost in vomiting by fluids that will also correct the abnormal blood chemistry, such as hypertonic salt solution, and glucose if the blood sugar is normal. Never give soda, as we already have an alkalosis. In giving large quantities of glucose there should be a check on the urine and if sugar is present it should be controlled by insulin. Glucose restores hepatic function, and renders more nearly normal the plasma content; 3—supporting the heart and circulation with digitalis and other proper stimulants. Digitalis is usually given intravenously in large doses in serious embarrassment of the heart.

Active treatment for the first 24 hours after operation by the method suggested, and continued as needed, and this, combined with proper preoperative treatment, will, I am confident, lower our present too high mortality.

INJURED ABDOMEN

(Hugh Robertson, Sayre, Penn., in Amer. Jl. Surgery, Nov.)

Conservation has proved to be the best policy. If one is to err in his handling of an intra-abdominal injury, it is safer to err on the side of doing too little. Each case presents a different problem. Some patients should be operated upon immediately; others should never be subjected to operation. Differential diagnosis is difficult and often impossible. A clear conception of the *modus operandi* of the injury and the force involved will make the diagnosis much easier.

We operate only upon those patients showing evidence of uncontrolled hemorrhage or peritonitis. Any trauma involving the abdomen calls for critical study, and bears careful watching for a prolonged period of time. Automobile manufacturers should be made to realize the dangers of the present rumble-seat. Attempts should be made to so design the rear compartment that this danger is minimized.

CARBON DIOXIDE AS AN ADJUNCT TO SPINAL ANESTHESIA

(C. A. Roeder, Omaha, in Amer. Jl. of Surgery, Nov.)

Spinal anesthesia produces respiratory failure in two ways, viz.: (1) a paralysis of the motor nerves of respiration; (2) a paralysis of the vasomotor nerves of the splanchnic area which results in a loss of blood pressure followed by a myocardial and medullary ischemia. Carbon dioxide 5 to 10 per cent in pure oxygen is a valuable adjunct in spinal anesthesia when the motor nerves of respiration are not paralyzed. When the heart contraction ceases due to an acute loss of blood pressure if a paralysis of the motor nerves of respiration occurs, only artificial respiration can be of service followed secondarily by vasoconstrictor stimulation.

Apparatus for artificially insufflating the lungs with oxygen and carbon dioxide and a vasoconstrictor such as adrenalin are required and a special anesthetist who has a knowledge of the causes of respiratory and vascular collapse and who has the means and methods of handling them successfully.

In place of doing away with an anesthetist, spinal anesthesia requires one of greater training, due to the greater frequency of serious complications.

THE PRESENT POSITION AND FUTURE OF HOMOEOPATHY IN GREAT BRITAIN

(C. G. Hey, M.B., C.M.Edin., The British Homoeopathic Journal, Oct.)

In 1901 there were over 300 homoeopathic physicians in the British Isles.

In many instances the homoeopathic interest is being kept alive by keen lay homoeopaths, who perforce are compelled to do much homoeopathic prescribing among their friends and the poor around.

I appeal to all who have even only a remote influence over the future of young medical students and doctors to exert every fraction of that influence towards making them homoeopaths.

THE ROLE OF THE PITUITARY IN THE ETIOLOGY OF CANCER

(William Susman in The British Medical Jl., Oct. 31st)

Based on the hypothesis that in cancer cases the anterior pituitary was overactive, and the posterior pituitary underactive, two cases of advanced cancer were treated with pituitrin alone, and five cases with pituitrin and thelin [an ovarian extract—P. D. & Co.] All were placed on a diet low in carbohydrate. An epithelioma began to separate off and was enucleated after seven weeks of this treatment. The growing edge disappeared in five days. All the cases showed regressive changes in the tumours, and life appeared to be definitely prolonged.

Ringworm or Fungus Infection of the Skin and Its Appendages*

W. L. KIRBY, M.D., Winston-Salem, N. C.

The remarkable work of Sabaroud¹ in France, Whitfield² in England, White³, Mitchell⁴, and others in this country in salvaging the various dermatoses produced by fungi, from the huge dermatological scrap-heap, Eczema, has been of immense practical value and represents an epoch in dermatology.

Castellani⁵ of New Orleans and London, whose investigations have been so extensive in all sorts of fungus infections, that he is regarded one of the foremost authorities on mycology, has described twenty-three clinical types of fungus infection of the skin and appendages occurring in and around New Orleans. Thus far the differentiation of the various fungi producing skin lesions has received very little attention, and probably has not much practical value. However, the presence or absence of fungus infection as revealed by a microscopic study is often of great value in arriving at a correct diagnosis, as those who have had much experience with border-line cases readily admit. It is of academic interest to note that Castellani has shown the clinical picture of tinea cruris may be produced by five or more different tinea: three Epidermophytons—*rubrum*, *cruris* and *perneti*; and two Tricophytons—*nodoformans* and *spiculatum*. The epidermophytons mentioned have also frequently been shown to produce a clinical picture on the feet and hands, even in the same patient, which is entirely different from the appearance in the crotch. It would seem the clinical picture is determined largely by the location of the disease rather than the type of fungus present.

Here in Winston-Salem within the past two years, we have encountered ten of the clinical types described by Castellani in 1927.

1—Interdigital epidermophytosis of the feet has been the most frequent by far, with involvement of the hands also in many cases, especially those of long duration. We have also had a few cases in which the hands alone were involved, verified by microscopic exam-

ination as well as clinical cure on ringworm treatment. This treatment usually aggravates an ordinary dermatitis, eczema or tetter.

2—Tinea cruris, several cases, in most of which the feet were also involved.

3—Pruritis ani: of a number of cases with this clinical condition, we have had three in which microscopic examination revealed fungi; in two of these cases there was ringworm of the feet and crotch, in the third case one other lesion in the right inguinal crease, the feet and hands being clear.

4—Mycotic pompholyx, which it seems to us would be better classified as a subdivision under the first group, where the fungi were demonstrated, in patients with a symmetrical, vesicular and bullous eruption of the hands and feet with rapid onset.

5—Tinea versicolor: several cases, with the usual distribution on the chest or back and causes no symptoms. These patients usually want a diagnosis primarily, the only treatment necessary is a saturated solution of sodium hyposulphite.

6—Tinea of nails: many of the cases of ringworm of the feet or hands, especially those who gave a history of repeated attacks, had one or more infected nails.

7—Cryptococcic intertrigo is a mycotic condition usually limited to the third interdigital space of the hand, but may occur in the other intertriginous areas occasionally. It is due to a yeast-like organism, monilia. The two or three cases we have had responded nicely to application of 4 per cent. silver nitrate in spiritus etheris nitrosi, the usual treatment at the New York Skin and Cancer Clinic.

8—Tinea tonsurans (scalp) only one: this child had one area the size of a dime of stubby infected hairs which cleared up with local treatment, without recourse to epilation by thallium acetate or x-ray as is required in extensive cases.

*Presented to the Forsyth County (N. C.) Medical Society, meeting at Winston-Salem, October 13th, 1931.

9—Blastomycosis, one case with granulomatous lesions on arms and hands which healed nicely with x-ray locally and potassium iodide internally.

10—Sporotrichosis, one case.

The last three were all verified microscopically.

The patient with sporotrichosis had received, eighteen months before observation, a minor injury on foot followed by swelling and deep chronic inflammation. The Wassermann reaction was negative. Operation twelve months before we saw her showed no bone disease and a granulomatous, worm-eaten appearance of the soft tissues. This same condition was present when we examined her in April, 1930, and x-ray showed the os calcis involved. Curettment of the diseased tissue showed positive smears in direct preparation with 10-per cent, potassium hydroxide solution and positive cultures on Sabaroud's medium were also obtained. The condition responded to x-ray therapy and massive doses of potassium iodide internally over a period of four months.

Since ringworm (or epidermophytosis) of the feet and hands is so common, the remainder of this paper will be devoted to its consideration.

TINEA (RINGWORM) INFECTION OF THE FEET AND HANDS

Clinically ringworm in these locations is a misnomer, since ring-shaped lesions such as occur on the glabrous skin of the body are almost never observed. Other names for the condition, used in the advertisements of commercial drug houses in creating a demand for their products, are athletes' foot, golfers' itch, etc.

In considering the prevalence of this disease with which Surgeon General Cummings⁶ says, approximately 50 per cent. of the adult population is or has been afflicted, several points are to be noted. It is probably more prevalent among students than any other class. Many older patients date the onset of

their infection back to student days with periodic flare-ups, especially in the summer, over a period of years. Certainly there exists in the average high school or college gymnasium ample opportunity for susceptible persons to contract ringworm.

Ringworm is probably more prevalent in the warmer climate of the south; Kirby-Smith⁷ of Jacksonville reported 486 patients diagnosed ringworm of 1,476 new patients—about 33 per cent.

Smith⁸ reported ringworm found in practically all cases of Mexican laborers and their families. Crutchfield⁹ found over 80 per cent. of prisoners in Texas State prisons had the infection on their feet.

In northern cities the incidence is much lower, estimates being from 2 to 10 per cent. of dermatological patients in clinics and private practice. There has been a marked increase in the number of ringworm cases as revealed in the study of the records of the New York Skin and Cancer Hospital.¹⁰

It is interesting to note the sudden increase from 4 per cent. in 1927 to 7 per cent. in 1928; and the coincident decrease in eczema from 18 per cent. to 12 per cent. My observations as resident physician in the clinic from April, 1928, to September, 1929, caused me to form the opinion that the policy of sending all patients, whose disease could possibly be due to fungus, to the laboratory for microscopic examination, was largely responsible for the sharp increase in the number of cases diagnosed tinea.

While there has undoubtedly been an increase from year to year during the last ten years, according to Weidmann¹¹, more accurate diagnosis is to some extent responsible as was the case with appendicitis a few years ago. More and more cases formerly classified as eczema are now being diagnosed clinically and microscopically as fungus disease. One of the explanations which has been advanced for the present prevalence of ringworm infection is the splendid opportunity which was afforded in training camps for the dissemina-

From New York Skin and Cancer Hospital

	1925	1926	Y E A R 1927	1928	1929
Total number of patients.....	21,725	20,244	25,345	27,560	29,145
Eczema	5,565	4,314	4,597	3,520	3,341
Per cent	25	21	18	12	11
Acne	1,877	2,178	2,118	1,859	2,496
Per cent	8	10	8	6	8
Tinea	839	829	1,231	2,140	2,938
Per cent	3	4	4	7	10

tion of the infection; also the modern tendency of people in general to engage in sports, using public showers, pools, dressing rooms, etc., is certainly a large factor. Only in a few Y. M. C. A., school, or club gymnasiums has any determined systematic effort been made to prevent the spreading of the disease.

The diagnosis is not usually difficult in active cases, especially if the feet are involved. The chronic cases may cause no symptoms and show only a sodden macerated condition of the plantar surfaces and between the toes, especially the fourth and fifth. In more active chronic cases there is peeling of the sodden skin and fissure formation associated with more or less itching which is not considered disagreeable by some patients.

There is a second chronic type which gives very little trouble, and is less common; this is the hyperkeratotic type in which there is marked thickening of the skin with piled-up callus-like lesions bearing a superficial resemblance to plantar warts. The plantar surfaces of the toes are thickened presenting a peculiar angular appearance at the edges as described by Howard King.¹² As the cornification increases fissures appear under the toes and along the sides of the foot. This type is also almost symptomless, but these chronic cases are probably largely responsible for the spread of the disease.

The acute superficial vesicular type of case more often comes for aid after trying the remedies of all his friends, and sometimes those of the druggist. This variety usually starts in the same location and often from a chronic symptomless case; spreading rapidly with intense itching and burning, the patient often rubs the vesicle tops off creating raw surfaces. The lesions usually spread backward along the arch and medial surfaces of the foot and then to the dorsum of the foot, where, in the thin skin areas, the condition often simulates a weeping eczema.

The second acute type is the deep vesicular, or bullous type, with deep-seated vesiculo-pustular lesions on the plantar surfaces of the hands and feet—subdivision, mycotic pompholyx. Large raw areas and undermined edges are created as the disease progresses, and the patient is not uncommonly disabled for several days. Secondary pyogenic infection is almost the rule in this type and less often in

the superficial vesicular type of short duration. Secondary streptococcic infection occasionally causes an erysipeloid condition with lymphangitis, marked swelling and constitutional symptoms. Blood-stream infections are said to have occurred in a few cases. We have not observed this complication.

Tinea of the nails of the hands or feet is often present in patients who have suffered from recurrences over a period of years. Williams¹³ has called attention to the difficulty in permanent cure in these cases unless the nails receive proper treatment. The nails are thickened, yellowish, opaque, the process usually starting at the distal end or side of the nail. The nail is separated from the nail-bed as the process advances, and is very dry and brittle. The growth gradually extends toward the base faster than the nail grows out, so that late cases show involvement of the whole nail.

Many cases of the superficial vesicular type in thin-skin areas, especially on the hands, so closely resemble eczema it is necessary to resort to microscopic examination in order to be certain about the differentiation. It is not unusual to see patients with an eruption on the hands who have had unsatisfactory results from local treatment. In a large number of these cases there is active ringworm on the feet which the patients have not mentioned to their physician, and the lesions on the hands have been considered as eczema or tetter. In these cases treatment must be directed primarily to clearing up the infection of the feet. In fact certain authorities, including Williams¹⁴, consider the eruption of the hands a dermatophytid or secondary toxic eruption. In favor of this theory is the fact that microscopic examination of the vesicle tops from the feet are most always positive, and those of the hands frequently negative. Tricophytin may eventually be of some help; in a recent report from the New York Skin and Cancer Hospital¹⁵, more than 90 per cent. positive tests with tricophytin intradermally has been obtained on patients with dermatophytosis. Attempts at desensitization by intradermal injections of tricophytin on a series of 100 cases resulted in:

	%
Apparently cured	52
Greatly improved	28
Slightly improved	21
Unimproved	19

Those apparently cured required one to two months' treatment twice weekly. The only other treatment was boric acid ointment locally. This work is, of course, experimental, and with improvement may be of value in stubborn cases.

Restriction of the carbohydrates and special diet have been found of value, and in our clinic it was customary to prescribe a largely vegetable diet with carbohydrates restricted. Though it is entirely beyond me to believe in the curative value of diet alone in a parasitic disease of the skin.

We have found local treatment with wet dressings, salves, and fractional dosage of x-ray to be most dependable if proper precautions including sterilization of shoes, socks, etc., are used to avoid reinfection.

In the acute cases without secondary pyogenic infection, fractional doses of x-ray every three or four days, opening of the larger vesicles, and continuous wet dressings of $\frac{1}{2}$ to 1 per cent. freshly prepared aluminum acetate solution is very effective in drying up the eruption and relieving the discomfort. This requires a week to ten days after which we use the exfoliating paste of salicylic acid, 6 to 20 per cent., depending on the thickness of the skin to be exfoliated. This peels off the fungus-laden epidermis and the peeling process should be continued a week or ten days after all evidence of the infection has disappeared. If the patient is ambulatory it is best to use the paste only at night and an antiseptic paint during the day. We use the carbol fuchsin paint according to Castellani's⁴ formula:

Sat. Sol. Basicfuchsin	10%	10 c.c.	
Liquefied Phenol	4%	100 c.c.	5% sol.
B. A. Powder	1%	1 gm.	
Acetone .. .	5%	5 gm.	
Resorcin .. .	10%	10 gm.	

After all lesions are gone, the patient is instructed to use an antiseptic dusting powder daily composed of salicylic acid $\frac{1}{2}$ drachm, boric acid 1 drachm, starch and talc of each q. s. 1 ounce, for several days. To avoid reinfection from the patient's shoes, socks, house slippers, bath mat, bath room floor, etc., we advise thorough sterilization by exposure to formaldehyde fumes. This may be done by placing the articles in the bath room, and lighting a formaldehyde candle. A simpler method for small articles, shoes, socks, etc., is to place them in an airtight container,

as a lard tin or wash boiler with an open vessel of pure formalin, the fumes of which are said to kill fungi on six to eight hours' exposure. The articles must be aired before wearing, as the formalin may produce a dermatitis. It is just as important in this condition that the patient understand the means of avoiding reinfections from the articles he has worn or walked upon as it is in scabies.

Dozens of proprietary remedies have been brought out by drug houses who have recognized the tremendous market for a remedy of value in this common condition. Most of these contain a mild exfoliating agent, usually an insufficient amount of salicylic acid for the average case, and an antiseptic incorporated in an ointment; *and are introduced via the physician, but are eventually to be sold over the counter as patent medicines.* Some are of temporary benefit in mild cases, but of no value in the extreme acute stage, and worthless as to the complete and permanent eradication of the infection. It is doubtful if any single drug or preparation can be found which will cope with the various stages and clinical manifestations of this disease.

It is my belief that the majority of those devoting much attention to this condition in large clinics and private practice are managing their cases in general as above outlined, with variations as to details, and with success in the majority of cases in three or four weeks. Any ointment or salve is of no benefit, and actually harmful in the extensive acute vesicular cases. Ultraviolet radiation appears to be of no value except for superficial secondary pyogenic infection. The fractional x-ray treatments relieve discomfort and hasten drying up of vesicles in the acute stage. In the chronic stage the small dosage used is not parasiticial, but reduces hyperidrosis and renders the soil less favorable for the parasites. If uniformly good results are to be obtained the cases must be given individual study and attention with rational treatment, rather than giving the patient some proprietary ointment to treat himself, and no instructions as to prevention of reinfection.

A decrease in the number of new cases can apparently be brought about by proper supervision of public showers, pools, etc. The chronic cases, especially those without symptoms, act as carriers, and are no doubt the

most prolific source of new acute cases because they are allowed the privilege of showers, pools, etc. According to Earl D. Osborne⁶ no new cases appeared in the city schools of Buffalo following installation of rubber wells containing $\frac{1}{2}$ per cent. sodium hypochlorite solution in the corridors leading to and from showers. This solution was used because it was easily available and inexpensive. If by this or some other measure the dissemination of the disease by persons with latent and chronic infections is prevented; and the active cases are thoroughly cleared up, there is reason to believe we shall see a marked decrease in the number of ringworm cases.

Bibliography

1. SABAROU, R.: Sur l'existence frequente d'un sordisant eczema des doigts du a l'epidermophyton inguinale. *Annals de Dermat et Syph.*, 5s, 1:289-296, 1910.
2. WHITFIELD, A.: Unusual cases of Tricophyton Infection. *Lancet*, 2:237, July 25, 1908.
3. WHITE, C. J.: The question of epidermophyton infection a problem in dermatological diagnosis. *Journal Cutaneous Diseases*, 37:501-516, August, 1919.
4. MITCHELL, J. H.: Further studies of ringworm of the hands and feet. *Arch. Derm. and Syph.*, 5: 174-197, Feb., 1922.
5. CASTELLANI, A.: Fungi and fungus diseases. *Arch. Derm. and Syph.*, 16:383, Oct., 57, Nov., 714, Dec., 1927.
6. CUMMINGS, H. S.: *United States Public Health Service News Bulletin E* 28, Sept., 1928.
7. KIRBY-SMITH, J. L.: Tricophytosis a Dermatological problem in Southern States. *Sou. Med. Journal*, Vol. xx, No. 8, August, 1927.
8. SMITH, L. M.: Ringworm infections of the hands and feet. *Southwestern Medicine*, 14:102, March, 1930.
9. STRICKLER, A., and FRIEDMAN, R.: Symptomatic and Asymptomatic ringworm of the feet. Sept., 1931, Vol. 24, No. 3,430.
10. GOODMAN, H.: *Arch. Derm and Syph.*, Tinea, the second most prevalent skin disease. Vol. 23, No. 5, May, 1931.
11. WEIDMANN, F. D.: Dermatophytosis. *Penn. Medical Journal*, 32:489, April, 1929.
12. KING, HOWARD: Ringworm of the feet. *Tenn. State Medical Journal*, Oct., 1927.
13. WILLIAMS, C. M., and BARTHELL, E. A.: Tinea of the toe nails as a source of reinfection in tinea of the feet. *J. A. M. A.*, 93:907-910, Sept. 21, 1929.
14. WILLIAMS, C. M.: Dermatophytid. *Arch. Derm. and Syph.*, 13:661-670, May, 1926.
15. OSBORNE, EARL D., and HITCHCOCK, B. S.: Vol. 97, No. 7, 453-455, July 11, 1931, *J. A. M. A.*

TINEA OF THE NAILS

(T. J. Kurotchkin and T. L. Ch'in, Peiping, in *Nat'l. Med. Jl. of China*, Aug.-Oct., 1931)

It is well known that onychomycosis is a disease extremely resistant to treatment, probably due to the fact that the organisms grow into the nail substance and penetrate deeply into the matrix where no local applications can have access. The best results can be obtained by paring the surface of the nail after it has been softened by soaking in hot water, or by application of dilute sodium hydroxide solution, and then rubbing into it and under the nail-fold ointment of salicylic acid. Persistent repetition of this treatment may finally destroy the infection without permanent deformity of the nail, but in most cases the disease does not respond to this or other treatment. In a few instances where avulsion of the affected nail was performed, recurrence of the disease followed regrowth of the nail.

WHICH ARSPHENAMINE IS BEST?

A. Benson Cannon and Marie B. Karelitz, New York (*Journal A. M. A.*, Nov. 21st, 1931), present the results of an inquiry into the relative merits of arsphenamine, neoarsphenamine and silver arsphenamine in the treatment of early syphilis. The records of more than 5,000 patients were examined, and only those were selected whose histories showed an infection of not more than six months' duration when treatment was begun and who remained under treatment and observation for not less than six months thereafter. Four hundred and thirty-six patients were found to have fulfilled these requirements. The authors conclude that arsphenamine proved in all respects the most satisfactory. It requires (1) fewer injections; (2) a smaller amount of the drug, and (3) a shorter period of time to give a negative Wassermann reaction, all these factors being greatly to the patient's physical as well as financial advantage. There is no doubt that arsphenamine is more trouble to administer, since it has to be neutralized and well diluted and given preferably by the gravity method; but, the welfare and cure of the patient being the first consideration, any inconvenience to the physician is negligible.

JUGULAR COMPRESSION IN THE TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM

(D. C. Smith and J. A. Waddell, Charlottesville, Va., in *Arch. of Derm. and Syphil.*, Nov.)

A small series of cases showed an increase of 55 per cent. in the arsenic content of the spinal fluid following jugular compression as compared with controls. All of the test cases showed the presence of arsenic. Theoretical and experimental data support the idea that jugular compression is a useful adjunct in treatment in selected cases of neurosyphilis.

Arachnidism*

A. M. CORNWELL, M.D., Lincolnton, N. C.

Lincoln Hospital

Arachnidism, or poisoning from a spider bite, is not by any means a new condition. Although textbooks rarely mention it, case reports do date back over a period of many years. Some of these more recent writers now claim that this disease should be classed as a definite clinical entity in general medicine. The frequency of the cases, and, at times, the seriousness of them, at least warrant some consideration.

There are different types of poisonous spiders, but the only poisonous one reported to exist in this portion of the country is the *Latrodectus mactans*, better known as the black widow,—from her habit of eating her mate—shoe-button or hourglass spider. It is a shiny, coal-black spider, having a globose abdomen, and with bright red and yellow spots as contrasting colors on the back and abdomen. The male and female differ in size and in these markings;—the female is the larger of the species, its body being about half an inch long and a quarter of an inch wide. The male is about half this size. The distinguishing marks are found on the ventral surface of the abdomen. Here we find a red spot, usually of an hourglass shape, with also some red or yellow around the spinnerets. The male has, in addition to this, four pairs of stripes located along the sides of the abdomen. The female seems to be the more aggressive, as she is the one that always does the biting.

Unlike the common field spider, which builds a nice, smooth web in a conspicuous place, the black widow is found to have a coarse, irregular web, usually located in dark, unfrequented places, such as lofts of out-buildings, under steps, around old lumber piles, in stumps and, most conspicuously of all, in the old-fashioned privy.

At the time the patient gets his infection he may not know that he has been bitten by some insect. The majority of the bites occur on the penis, in the privy, where the patient has gone some few minutes after eating a meal. He may not have any marked symptoms at the local site, and often does not see the spider, but attributes his condition to

something he has eaten at the previous meal.

The symptoms are mainly those of the muscular and nervous systems. They are rapidly progressive and extend by contiguity. The sensation at the site of the bite may be so slight as to be disregarded, but usually there is noticed a stinging or pricking sensation. Fifteen to 30 minutes later, the patient has a developing pain which radiates from the site, extending upward or downward, depending upon where the bite is, until finally it involves the entire body. This pain is evidently of a most severe type, as some of these patients present a picture of a veritable wild man. Accompanying this we have nausea and vomiting, often urinary retention, and extreme nervousness. The patient may be found bouncing all over the bed. The most constant sign at physical examination is the board-like rigidity of the abdomen, which closely simulates rupture of some viscus. However, it will be found that there are no points of tenderness and that, if the patient is turned to the prone position and marked pressure put on the lumbrosacral region, he will be partially relieved of his symptoms. This is the position in which I found a patient recently. There is usually a low-grade fever with a mild leucocytosis. The symptoms reach their height after a few hours and then gradually subside, but are not entirely relieved for two or three days. This is the usual course, but we may have the bite occur on any portion of the body, with definite swelling and infection at the site of the bite.

In the treatment many remedies have been used, ranging all the way from blood-letting to convalescent serum, as the latest. Bogen of Los Angeles reports that one case was operated on under the impression that he had acute disease within his abdomen. The mainstays in the treatment seem to be sedatives and elimination and, at times, stimulation. Morphine is given, and often massive doses are required. Morphine with magnesium sulphate in the muscles works well, and in addition, bromides and pantopon may be given. Magnesium sulphate, milk of magnesia and enemas are indicated for the elimi-

*Presented to the Seventh District (N. C.) Medical Society, meeting at Albemarle, October 20th.

nation. However, the hot pack is likewise indicated, and with the next opportunity I shall wrap the patient in an electric blanket. Catherization is usually necessary, due partially to the necessity for such large doses of opiates. With the presence of any local infection, that, of course, would have to be dealt with appropriately. Convalescent serum, 20 c.c. given intramuscularly, has recently been tried and proven satisfactory in affording quicker relief, and in shortening the convalescent period.

Summarizing then, the principal factors in these cases seem to lie in getting an accurate history. If the insect is seen the diagnosis is easy, and even without a history of a definite contamination, the rapidly progressive acute rheumatic condition, with the board-like rigidity of the abdomen without any points of tenderness, in a previously healthy individual, who has a mild leucocytosis and a slight fever, would seem to indicate that we are reasonably sure to be dealing with a case of spider-bite poisoning. Sedatives given repeatedly with the quickest forms of elimination are the main factors in the treatment, in addition to convalescent serum when it can be obtained.

In the past 15 months we have treated three of these cases in the Lincoln Hospital, and I have treated an additional one out in the home. All of them were adult males. Three received their infection early in the morning in the out-door privy, the fourth, while sitting in a barn door. Two recognized their condition as a spider bite, one thought he had been stung, and the fourth laid it to something eaten at the previous meal. Three were bitten on the penis, the fourth on the scrotum and died on the seventh day with an extensive erysipelas of the scrotum, hips and abdomen. One had some symptoms for about 10 days and the other two were able to go to work on the third and sixth days, respectively. A detailed case report of the third case treated follows.

Case Report

On the morning of August 7th I received a hurried call to the country. Arriving about 7 a. m., I found a man of 25 years in bed, rolling and yelling with pain in his penis, stomach and sacral region. He seemed to be in extreme agony and the only way in which he could find any relief was to lie in the prone position with some member of the family applying heavy pressure to the sacral region.

On questioning the members of the family, I learned that he got up feeling good, ate a hearty breakfast and then went out to the privy near the barn, this being about 30 minutes before I arrived. While on the stool, he said, he felt a slight stinging in the head of his penis, which he thought was only his urine burning as he voided, and therefore paid no particular attention to it at the time. He did not notice any insect. A few minutes after leaving the toilet he began to notice a definite pain in the head of his penis. The pain increased and traveled up into the abdomen and back and down into the lower extremities. He began to get very restless and nervous. He became nauseated and in a few minutes went to the house and to bed. Examination revealed that his temperature was normal, pulse 90 and respiration 24. Position as indicated above. He was retching and writhing in pain when moved about in bed. No evidence of any bite, sting or injury to head of penis. The abdomen presented a board-like rigidity throughout. When given a drink of water he immediately vomited it. Morphine sulphate, $\frac{1}{4}$ gr., was given, followed by enemas and milk of magnesia. Forty-five minutes later morphine order was repeated as he had gotten no relief. He was seen about three hours later, at which time he was still suffering intensely. He was then given 1-3 gr. pantopon hypodermically and 20 c.c. magnesium sulphate intramuscularly. In about 30 minutes following these injections he got some relief, but was not entirely free of pain for about 48 hours. He was catheterized for two days, and on the fifth day he developed an urticaria which was followed by a series of boils on his face and neck and lower extremities. Nervousness and exhaustion followed for one week, after which he made a complete recovery.

Many spider webs were later found around the toilet, within one of which was found a black widow, as above described, serenely awaiting its prey.

References

- COMSTOCK, J. H.: *Spider Book*, pp. 357-358, 1920.
BROWN, W. L.: Spider Bite, *Southwestern Medicine*, 8:131-132, March, 1924.
BOGEN, EMIL: Arachnidism, Spider Poisoning. *Archives of Internal Medicine*, 38:623-632, Nov. 15, 1926.

HEMOPHILIA IN A TWIN

(M. de Lacey, London, in *The Lancet*, Nov. 14th)

There are three recorded instances of hemophilia in twins. In two of them both members were affected, whereas in the other case one twin was normal and one was affected.

In the following case which has come under my care one twin is normal, while the other is a typical bleeder. The twins are both boys. I have managed to trace the family back for five generations and no other instance of a bleeder can be found in the family.

Chylous Ascites Associated With Carcinoma of the Stomach

WILLIAM B. NORMENT, M.D., Greensboro, N. C.

Chylous ascites associated with carcinoma of the stomach is a comparatively rare finding; since 1860 there have been twenty-one cases reported. Previous to 1860 there were recorded something more than twenty-five cases of milky peritoneal effusions and since then Waller and Scholberg have collected 171. Morton and Vernage two centuries ago advanced the idea that such a condition may arise as a result of disease instead of trauma. Quinke classified this form of ascites as hydrops chylosus and hydrops adiposus. Later he included a third type, pseudochyloous ascites. All effusions into serous cavities in which there is a direct anatomical evidence pointing to an implication of the lacteals and general lymphatic system he classified as hydrops chylosus. When the fat present was due to a degeneration of cells and not to an addition of chyle it was designated hydrops adiposus. A milky fluid caused by other substances than fat he called pseudochyloous ascites.

Blan Renhorn examined five specimens of fluid from patients with pseudochyloous ascites and found the turbidity of the fluid to be due to proteins from some unknown source. This substance by partial solution and partial isolation became so finely divided as to assume properties common to colloids. By recognizing the colloid properties of suspended fat he explains the origination and fallacy of the term, pseudochyloous, and terms each of the three states a true chylous ascites. Lynch in supporting this theory states the fat is held in a colloid state and as it exists in chyle it is so stable as to resist ordinary methods of separation. The fineness of the fat globules is more of a factor in the turbidity than the amount of fat present.

Upon chemical examination the protein constituents show wide variation, from 1 to 6 per cent. Serum albumin occurs in the largest quantity and serum globulin in little more than traces.

The causes of chyle in the peritoneal cavity are the same as those of serous ascites. New growths or inflammatory masses making pressure on vessels and increased permeability of vessels caused by malnutrition are also causes of chylous ascites.

Hendricks states that 10 per cent. of chylous ascites is due to malignancy. The maximum age occurrence in the collection of cases by Waller and Scholberg is between 40 and 60 years.

Case Report

Woman, 64, chief complaint stomach trouble for past 10 years which simulated peptic ulcer until the last year of her illness. In spring and fall of each year for six weeks she would have attacks of epigastric distress coming on two hours after meals with relief by taking of food and soda. This continued for several years until the distress became a dull aching pain referred to back. In fall of 1930 pain became more severe and would come on at any time in day with much belching of gas and less soda- and food-relief. She vomited occasionally and during past few months had dark stools. The loss of weight had been gradual. Occasionally upon awakening in the mornings she would expectorate fresh blood.

She was undernourished, looked the age given, said she had lost 15 pounds. The right lobe of thyroid contained a small adenoma. Breath sounds over the base of the right lung were slightly diminished. The abdomen was diffusely tender with a palpable mass in mid-epigastrium. The rectal shelf was free. Blood picture: hgb. 9.6; reds 3,240,000, whites 6,000; differential—lymphocytes 21.5 per cent., slight anisocytosis, poikilocytosis and polychromatophilia. Gastric analysis: total acids 58, free HCl 38. Roentgenogram of stomach showed an ulcerating carcinoma of the lower third. The chest ray revealed a diffuse bronchiectasis at right base. Because of the findings in the chest and history of hemoptysis a bronchoscopic examination was done. This was negative.

Exploration revealed a carcinoma of the stomach which was freely movable. The glands were fairly extensively involved. It was an operable case but for the great amount of chylous ascites present. As there was some question of chest metastasis it was interpreted as being a blocking of the bile duct from malignancy in the chest. The wound was closed as an abdominal exploration and the patient was discharged from the hospital on the 13th day.

Upon reviewing the literature 21 similar cases of chylous ascites due to carcinoma of the stomach were found.

The 21 Cases

1. GRIEGER: *Charité Annalen*, Berlin, 1883, viii, 109-123. Two cases of carcinoma of stomach with

metastases to the liver—one male and one female, age 44 and 55.

2. STRAUS: *Arch. de Physiol. Norm. et Path.*, Paris, 1886, 3rd ser., vii, 367-392. Carcinoma of pylorus—generalized peritoneal metastases.

3. ZAWADZKY: *Gazeta lekarska*, 1891. Patient aged 67 with carcinoma of stomach associated with chylous ascites. Thrombosis of innominate and left subclavian veins.

4. TURNEY: *Trans. Path. Soc. Lond.*, 1893, xlv. Patient aged 54. Carcinoma of pylorus, thoracic duct dilated throughout, obstructed by clot at entrance to vein.

5. LEYDHECKER: *Virchow's Arch. f. Path. Anat. n. Physiol.*, 1893, cxxxiv, 118-144. Female aged 39. Carcinoma of pylorus, thoracic duct infiltrated throughout with growth.

6. WEISS: *Centralbl. f. innere Med.*, 1894, xv, 665-669. Carcinoma of stomach; thoracic duct obstructed at origin by growth.

7. HERTOEN: *Virchow's Arch. f. path. Anat. n. Physiol.*, cxxxv, 1894, p. 357. Carcinoma pylorus; duct infiltrated throughout whole length.

8. SAINTON: *Gaz. hebdor—de Med. et de Chir.*, 1896, xlv, 61. Carcinoma of pylorus; abdomen filled with milky fluid.

9. ROTMAN: *Zit f. Klin. Med.*, Berlin, 1897, xxxi, 416-441. Carcinoma of pylorus; thoracic duct compressed at origin by growth.

10. ROTMAN: *Zeit. f. Klin. Med.*, Berlin, 1897, xxi, 416. Carcinoma of pylorus, ascites, fatty degeneration of peritoneum.

11. MOEHLE: *Greifswald. Diss.*, 1896. Carcinoma of pylorus—metastases to retroperitoneal glands, abdomen filled with milky fluid.

12. HIRTZ and LUXS: *Bull. et mem de la soc de med. des hop. de Paris*, 1897, 1148. Carcinoma of stomach. Metastases in mesentery, pancreas and vertebrae; thoracic duct embedded in growth.

13. GROSS: *Arch. f. exp. Path. n. Pharm. Leipzig*, 1900, xlv, 179-185. Carcinoma of stomach, abdomen filled with milky fluid.

14. CROOM, H.: *Lancet*, Lond., 1903, 1961. Metastases in mesentery; thoracic duct obstructed at origin.

15. KAHN: *Bull. Med.*, 1900, No. 28. Carcinoma of stomach; thoracic duct involved at origin.

16. MENETIER and CARLIN: *Bull. et Mem. de la soc de med des hop de Paris*, 1902, 876. Carcinoma of stomach; abdomen filled with milky fluid.

17. MASSING: *St. Petersburg. Med. Woch.*, 1907, xxxii, 231-234. Carcinoma of stomach; metastasis to liver.

18. VON TABORA (quoted by Waller and Scholberg): Carcinoma; secondary deposits in glands and peritoneum.

19. OUTLAND and CLENDENING: *Journal of American Medical Association*, Vol. 66, June 10, 1916. Chylous ascites due to cancer of stomach.

20. HENDRICKS, H. V.: *Journal of American Medical Association*, Vol. 74, March 27, 1920, 869-871. Chylous ascites due to carcinoma of stomach.

CONCLUSIONS

Chylous ascites associated with carcinoma of the stomach is an uncommon finding. Its presence with a freely movable growth is of bad prognostic import. The association of chest findings as in the case reported with carcinoma of the stomach should lead us to suspect chylous ascites as an added complication.

Bibliography

1. BLAN RENHORN, M. A.: Causes of turbidity in milky ascites. *Arch. Int. Med.*, 32, July, 1923, 140-156.

2. HENDRICKS, H. V.: Chylous ascites due to carcinoma of the stomach. *Jour. Am. Med. Assn.*, 74, March 27, 1920, 869-871.

3. LYNCH, M. J.: Chylous ascites. *Jour-Lancet*, 46, Oct. 1, 1926, 460-462.

4. MORTON (Quoted by Waller and Scholberg).

5. QUINCKE (Quoted by Waller and Scholberg).

6. WALLER, R. S., and SCHOLBERG, H. A.: Chylous and pseudo-chylous ascites. *Quart. Jour. Med.*, Oxford, 4, 1911, 153-204.

COFFEY-HUMBER TREATMENT FAILS

(R. H. Harris, Los Angeles, in *Jl. A. M. A.*, Nov. 11th)

Four hundred and fifteen persons who had carcinoma or sarcoma were given subcutaneous injections of suprarenal cortex substance extract by the representatives of Drs. Walter B. Coffey and John D. Humber, and were observed and examined by physicians of the Kellogg Foundation.

The benefits of use of the suprarenal cortex extract experienced by patients with malignant tumors in relation to gain in weight and relief from pain did not occur uniformly or in the majority of the patients observed by us.

The extract administered to these patients had no selective influence on the growth, necrosis or sloughing of malignant tumors.

Necrosis and sloughing of malignant tumors were not beneficial but were detrimental to these patients, producing hemorrhage, anemia, distressing fistulas, perforation with abscess or peritonitis, and other serious consequences.

Cure of malignant disease in patients with advanced carcinoma or sarcoma, in view of the experience of the patients of this service, can not reasonably be expected to occur as a result of use of the suprarenal cortex extract.

No tumor of any patient in this series was observed to disappear either spontaneously or as a result of use of the extract. Apparently favorable changes in one or two cases after use of the extract had no noteworthy influence on the progress of the disease.

Abortion and Abortionists*

ROBERT THRIFT FERGUSON, M.D., Charlotte, N. C.

Abortion is defined by Gould as the expulsion of the ovum before the child is viable, that is, occurring any time before the end of the sixth month. By some authors expulsion of the ovum during the first three months is termed *abortion*; from this time to viability it is termed *immature delivery* or *miscarriage*, and from the period of viability to that of maturity, *premature delivery*.

There are many varieties or classifications of abortion: accidental or spontaneous; artificial, that produced intentionally; criminal, when not demanded for therapeutic reasons; habitual, repeated abortions in successive pregnancies, usually due to syphilis; complete; incomplete, when the membranes of the placenta are retained; inevitable, when the embryo or fetus is dead, or when there is an extensive detachment or rupture of the ovum; missed, when there is death of the fetus and not followed in two weeks by its expulsion; therapeutic, when done to save the life of the mother.

The etiology of abortion is practically covered by the following factors: malpositions of the uterus; adnexal disease; pelvic inflammatory states outside the adnexa; lacerations; cervicitis; injuries; drugs; catheters, or other foreign bodies; general infections; excessive coitus; acute contagious and infectious diseases such as typhoid fever and tuberculosis; syphilis; placental infarcts; fetal death; endometritis, and Bright's disease. Criminal abortions are in a class by themselves and abortionists use many and subtle methods for propagating their nefarious trade.

There are many classes of abortions that particularly interest the medical profession: first; those of unknown cause where women are anxious for children and continue to abort; second, therapeutic abortions done to save the life of the mother; third, criminal abortions where women in every walk of life apply for relief when pregnant regardless of the circumstances. Indications: serious valvular heart lesions; acute or chronic Bright's disease; varicose veins (excessive) of vulva

and vagina; pernicious vomiting; tuberculosis sometimes; acute contagious or infectious diseases such as typhoid fever. Of the first class little is known beyond the fact that syphilis plays an important role. In the second class all physicians are interested for there are many such patients who need to have the uterus emptied.

Physicians differ widely in their opinions as to the indications for producing therapeutic abortions, especially in such diseases as tuberculosis, heart diseases, kidney diseases, pernicious vomiting and typhoid fever. About 44 per cent. of tuberculous women are said to be made worse by child-bearing. Many women with pernicious vomiting will not try to help themselves but beg for abortions and some of our brethren succumb too easily to their pleas. A few years ago there came under my observation a young woman in her first pregnancy and vomiting severely, who had made up her mind that she would not carry the pregnancy to fruition. She was taken to the hospital by her family physician with whom I saw her in consultation. The mother was on hand and took charge of the case. All questions addressed to the patient were answered by the mother; both were bent on an abortion and neither would hear to anything else. The urine and blood were both normal, as was the pelvis. The patient was put on regular diet, with an ice bag over the pelvis and given corpus luteum every other day. She recovered rapidly and was home in a week's time. One month later this patient had another consultant called in and was curetted immediately. She had been married only a few months and was determined not to have a child so soon. [The first year I started out to practice, on a Sunday morning, a beautiful young woman wearing many large diamonds appeared at my office and told me her troubles, the same old story, and said she had to have an abortion. I told her that was not my line of work and she would have to look elsewhere. She insisted and said she did not know where to go and if it was the fee that held me back all I would have

*Presented to the Mecklenburg County (N. C.) Medical Society, meeting October 6th.

to do would be to state my price that she did not care what it cost she was going to get rid of it. Although I was several thousand dollars in debt for my education I told her that a million dollars would not influence me in the least and that has been my stand ever since I got my diploma.] Most doctors are importuned many times each year to produce these abortions of convenience and, inevitably, some succumb.

One of the main reasons for this paper is to present the question, what are we to do with the professional abortionist in our midst? We all know that he is here and doing a thriving business but how are we to get at him? What are we going to do about it? An aspect of this problem which demands earnest attention is that many girls still in their teens, still in the high schools, are enticed into sexual indulgence and present themselves, or are presented by their parents, for relief. A few years ago a couple brought their 14-year-old daughter for examination for the reason that she had not menstruated for two months. When I had to tell them she was pregnant the parents were dumbfounded and their grief was distressing. The father asked how she could be rid of it. I told him there was no chance that I knew of, that the law made no provision for such situations. He said "damn the law" and that he would take her somewhere and get rid of it. He seemed to think hard of me for not doing something for her, and I explained to him the dangers of an abortion as well as the results that would accrue to the doctor who performed an abortion if he was caught, and especially of the dangers of infection with blood poisoning and death. He left my office saying he was going to take her somewhere and have an abortion produced. Two weeks later he and his wife came into my office and he said, "Doctor, she is gone". He went on to tell me that he took her to Atlanta and had an abortion produced and that, as I had told him might happen, she got infected and died, and they were then on their way north to bury her.

Now the pertinent question in this case is this: should a 14-year-old girl, not very alert mentally, who has been ruined by some unscrupulous young man, not have a chance? Should not we as organized bodies of medical men apply to the Legislatures of the various States for relief for these unfortunate

young girls? I am not asking for relief for the older ones who are of average mentality, but for the girl who is not able to protect herself from the seductive advances of young men eager to prey on her. I believe that a law should be enacted permitting the emptying of the womb of any girl under the age of 14 when three or more reputable physicians have been called into consultation and they agree that it is justifiable.

Conceptions of right and wrong change from time to time, and theology, jurisprudence and medicine present radical differences on various points in different countries.

According to Dr. Wolf of Berlin:

"Up to 1869 the Catholic church took a lenient attitude toward abortion, but since that time it has shown stern opposition. Plato and Aristotle regarded abortion up to the 80th day as permissible. Later the church distinguishes two periods, an early period in which the embryo was regarded as not possessing a soul, and a later period in which the soul was considered to have entered; hence abortion during the early period was not punishable. The church came to hold the view that the soul did not enter the embryo until the third month of pregnancy. The present attitude of mankind toward abortion recognizes social reasons for the destruction of the life germ, whether it takes place through prevention of conception or through abortion. Abortion is exceedingly common—much more widespread than would be assumed from the number of court trials for its perpetration. The prohibition against abortion causes the death in Germany of 6,000 women yearly, owing to abortion carried out in an unprofessional manner by so-called wise women, or midwives. The danger is much greater among the lower classes. For these reasons mankind demands a modification of the existing laws pertaining to the interruption of pregnancy."

In Queries and Minor Notes in the *Journal of the A. M. A.* appears the following answer:

"Therapeutic abortions are regulated in some States by statutes. In other States the statutes are silent. Where statutes are in force strict compliance is necessary. Generally they tolerate a therapeutic abortion only when the operation is necessary to preserve the life of the mother from some impending danger. The danger must be real; the bare responsibility of death is not sufficient. In some statutes it is provided that before an abortion can be lawfully induced two or more physicians must agree that it is necessary. Even in States where there is no statute to guide him a physician will do well to conform to the principles stated. A physician who induces an abortion to preserve only the health of the mother, as distinguished from her life, in a State

where the statute tolerates such operations only when they are necessary to preserve life, will find it impossible to justify his course legally, and even in the absence of a statute it will be difficult or impossible for him to do so. Under no conditions can an abortion be lawfully induced for the sole purpose of preserving a woman's reputation, or of contributing to her comfort or pleasure, or because of the patient's financial circumstances. Consultants should be selected who are of good repute and not biased by personal or professional relations with the case. The patient and her husband, or if she is an unmarried minor, her parents or guardian, should be fully informed concerning the situation by the attending physician, preferably in the presence of a consultant. If the operation may run counter to the religious faith of the patient, it will be desirable to make that fact clear to her, so that she may make an intelligent choice. The justification for the operation should clearly appear in the case history. The written consent of the husband and wife should be obtained before the operation is done, or if the patient is an unmarried minor, the written consent of her parents or guardian. Responsible officers of hospitals should see that the laws relating to therapeutic abortions are fully complied with before they permit such operations to be done in institutions under their care."

Dr. Wolf advances arguments to prove that the present law is a survival of barbarism, emphasizing the misery of the woman who becomes a mother against her will and the great suffering caused by abortions done by charlatans. With passionate zeal he takes up the cudgels against all those (ethicists, religionists, jurists, physicians) who approve all kinds of modifications and exceptions but who support the law imposing penalties for abortion. He urges that the Civil State has not recognized that the care of the child is the correlate of the duty to give it birth, or at least that it has not fully grasped the significance of the fact. Wolf is an opponent of abortion, for he does not fail to recognize, nor does he minimize, its moral and physical dangers. He, too, gives prophylaxis the preference; but in addition to the medical indications stated in the draft of the penal code, he recommends making the interruption of pregnancy permissible, on request of the gravida, within the first three months of pregnancy "if the capacity of the gravida to bear children is reduced; if offspring is undesirable for eugenic reasons, or if financial conditions constitute a contraindication to birth. If such abortions are then carried out

according to the best scientific knowledge" he contends "that will be a victory for hygiene no less valuable than other attainments of which it may boast". I do not agree with Wolf in these recommendations. Of 1266 questionnaires sent out to physicians of Hamburg replies were received to 880. Of this number only 41 expressed themselves in favor of permitting any physician to perform an abortion; 25 would accord such permission only to certain clinics. The purely social indications for abortions were approved by 339 and opposed by 517. The law in the United States does not recognize a social or ethical indication for abortion and with this attitude I am in thorough accord.

The Court of Criminal Appeals of Texas says "Abortion is committed by one who shall designedly administer, or cause to be administered, to a pregnant woman any drug or shall use toward her any violence or means externally or internally applied to procure an abortion".

It is interesting to note that on the 10th anniversary of the existence of legalized abortion in Russia, Bouko makes an extensive survey of it. Russia is the only country in the world in which abortion is legalized and every woman has there the right to request that it should be performed if there are present any indications of a social character. He recalls the situation in Russia in the pre-revolutionary days. The well-to-do classes got the best specialists and the poor people were at the mercy of ignorant midwives or without help. The aim of all Health Departments throughout Russia now is to take away the initiative from the criminal abortionists and shift it to the legal channels of a modern hospital. In spite of legalization, for the years 1922, 1923 and 1924 there were recorded 3,000 deaths from criminal abortions in the small villages of the republic of Russia proper (not of the whole Union). The author stresses that these figures are far from complete. The law requires that to every woman who applies for an abortion must be explained the risk of it to her life and future health. There is outlined a definite plan of indications of a social nature for abortion, and the Government opened all over the country many so-called Abortaries, most of them free. Abortion in Russia is at least accessible to every woman. The following legal changes

have been introduced lately: 1. the time limit is three months. If there is any medical indication no limit in time is necessary; 2. abortions are not allowed within six months after the termination of a pregnancy; 3. the patient has to stay in bed for three days; 4. the attending physician has the right to refuse to perform an abortion, and he has to refuse it when he finds a contraindication from the medical side.

The legislation on abortion in Russia met a flood of criticism, especially abroad. The claim was that such a law would lead to the degeneration of the nation. Bauko disproves this assertion, stating that it has no ground whatever. He shows that the birth rate in Russia for each thousand of population was: in 1911 (pre-revolutionary), 43.8; 1923 (after the revolution), 42.2; 1924, 42.9; 1925, 44.2 and 1926, 43.2. In 1929 the net increase in population of Russia was 23 for each thousand, while in France it was 1.3, and in England, 3.4. The total increase in population is at present $3\frac{1}{2}$ millions yearly. The motives on which abortion was asked for in Russia, stated in per cents, were: Poor economic condition, 48; desire to hide pregnancy—in large towns, 0.5, in country places, 4.1; various sicknesses, 21.6; the presence of a nursing in the family, 6.8; desire not to have a child, around 10. Legalized abortion in Russia is the only means for women's emancipation, for they have not, as yet, any reliable contraceptive.

About two years ago a lady on whom I had previously operated sent her daughter of 14 years to my office to examine on account of persistent nausea. The girl was three-months pregnant and I asked her mother over telephone to come to my office. She, like all others, wanted to know what she could do to get rid of it—said it just couldn't be permitted to go on. I told her the law and that there was nothing I could do. She said she did not expect that I would do anything for her but thought I might tell her of some doctor who would help her out. I told her I did not know of any such. She remarked that she would go the rounds till she found one. A short time later she visited my office and informed me that she had found a doctor in Charlotte who produced an abortion on her daughter. I asked her the point blank question what he charged and she said he charged \$500.00, and while that was a

big fee, she did not mind anything to get her daughter out of trouble.

Is the country getting worse morally? I say yes most emphatically. Every year I see more and more cases of pelvic disease due to illicit sexual relations in young girls and young women, and by no means all are from the lower stratum of life. Many are from what are considered excellent families and who travel in good society.

In conclusion I would like to reiterate that there should be some concerted action on the part of every medical society in the Nation to get rid of the professional abortionist, and that the medical profession should work to the end that certain changes might be made in our National and State laws that would permit the prevention of the attaching to our girls of 14 years of age and under the stigma of having borne an illegitimate child.

—Professional Building.

TREATISE ON TEMPERAMENTS

(James Worrell in Trans. Medical Society of Va., 1821, from the Medical Recorder, 1826)

Happily for us, the nervous temperament does not so frequently occur in large masses as to degenerate into national traits, it is chiefly to be sought for among the victims in the higher ranks of an overstrained and vitious (*sic*) civilization.

Should, however, our continued neglect of the shallow puddles of water, the constant receptacles of every species of filth, overcome the natural salubrity of our city, and we should, in our turn, become the victims of a widespread and dangerous disease: it is to be hoped that we shall not, either influenced by fashion, intrigue, or clamour, adopt indiscriminately any general plan of cure, but rather attentively consider the temperament and idiosyncrasy of those committed to our care, adapting our means of cure to the existing circumstances of our patients, and not indiscriminately pour out torrents of their blood, break down their stamina by drastic evacuants, or keep them in a constant state of stupefaction with wine, brandy, bark and opium. Uninfluenced by fashion or caprice, the conscientious physician will attentively consider how the means of cure may be most conveniently and best adapted to the habit and idiosyncrasy of his patient, and will also keep in mind the wonderful resources and energies of the vital principle. In his progress, new views may probably open, but he will recollect that the soundest judgment is shown in steering between opposite extremes; he will accordingly vary his plan to the different symptoms and appearances that may occur; not obstinately persisting in preconceived notions, or theories.

Pernicious Anemia of Pregnancy*

Report of Four Cases

C. W. ASHBURN, M.D., Statesville, N. C.

Davis Hospital

The study of the erythrocyte count and hemoglobin content of the blood of pregnant women is very interesting because of the frequency with which anemic states make their appearance both in the form of the "physiological" anemia as described by Nasse¹ in 1836, the pernicious type of Channing² in 1842, and the severe hemolytic type as described by Allan³ and others.

The physiological anemia seems almost to be a normal condition of pregnancy because of the frequency with which it is found, its tendency to begin early in gestation and the almost universal return to normal during the last two weeks before delivery and during the puerperium. In a series of 382 patients taken at random, Galloway⁴ reports the average hemoglobin determination for the first, second and third trimesters as 73, 69, and 66 per cent., and an average red cell count as 4,050,000, 3,940,000, and 3,870,000. He also found that there was (1) no difference in the results as regards primiparae *versus* multiparae; (2) an irregular rise of both hemoglobin and red cells during the latter two weeks of gestation; (3) a second decrease during delivery; (4) a fairly rapid return to normal in the majority of cases following delivery; and (5) a satisfactory response to even simple treatment in the majority of cases.

Bland, Goldstein and First⁵ in a series of one thousand cases, report an incidence of anemia of 56.7 per cent in the third trimester as against 24.7 per cent. in the second and also show that the number of primiparae as compared to multiparae is equal. In addition to supporting Galloway's conclusions they go further and report a distinct improvement in red cell count in 92 per cent. of cases two to six months following delivery. Nalle,⁶ on the other hand, in a report of the blood findings in two hundred consecutive cases showed a progressive anemia from the third to seventh months with an improvement in the eighth and ninth months. In 74 per cent. of his cases, there was a count of less than

4,000,000 red cells. The average count for the term was about 4,000,000 with the greatest amount of physiological demand during the seventh month.

A number of workers have attempted an explanation of the condition but as yet no theory can be accepted as more than a lead which should be followed. Aubertin⁷ and Adler⁸ feel that it is a hemolysis due to auto-intoxication, the auto-intoxication exerting its influence particularly in those women having a predisposition to anemia such as chlorosis in childhood and repeated pregnancies. Nyefeldt⁹ brings out the point that in the last months of pregnancy the fetus derives from the maternal organism large quantities of iron for the formation of red blood cells by a hemolysis of the maternal blood in the placenta. Under normal conditions, this placental hemolysis and maternal blood regeneration will practically compensate each other, but when the hemolysis is abnormally increased, the regeneration falls short and compensation fails, providing thereby a cause for development of hemolytic anemia. This, in its most pronounced form, constitutes a pernicious anemia. The question arises then, hemolysin correct in amount but the hematopoietic system being unable to cope with an excessive hemolysin formation, or, is the hemolysin correct in amount but the hematopoietic system already crippled by a predisposition to anemia as suggested by Aubertin and Adler? I am inclined to the opinion that there is, for an, as yet, unexplained reason, an excessive amount of the placental hemolysis which acts not only to liberate the hemoglobin from the maternal erythrocyte but to depress the maternal blood-forming system in general.

But whatever be the cause, it has been proved that beyond reasonable doubt in a number of cases, the anemia progresses to such a degree that it can no longer be called physiological but must, of necessity, because of its failure to spontaneous cure, be classed

*Presented to the Ninth District (N. C.) Medical Society, meeting at Lexington, Sept. 24th.

as pernicious. That it is not a true pernicious or Addisonian anemia has been ably pointed out by Allan³ and I refer you to his excellent discussion. The pernicious anemia of pregnancy is an acute hemolytic anemia occurring during and as a result of pregnancy, most often in women under the age of thirty-five, progresses steadily without remissions and is cured readily by blood transfusions. True pernicious or Addisonian anemia is chronic, occurs usually in men above thirty-five, is characterized by remissions, and is temporarily benefited, but not cured by transfusions.

The onset of pernicious anemia of pregnancy is usually insidious and becomes noticeable about the seventh month. The appearance and physical findings are those of any severe anemia consisting mainly of pallor, weakness, soft white edema, lemon-yellow tint, often sore mouth and vomiting. The spleen is often enlarged, which is a favorable prognostic sign. One patient coming under my observation had, in addition to the sore mouth, an almost unbearable vaginitis and proctitis. The erythrocyte count is often as low as 1,000,000, rarely more than 2,000,000; hemoglobin markedly decreased. The blood picture is that of a severe plastic anemia with polynucleosis as a rule. Other blood findings are normal.

The anemia grows rapidly worse and death frequently occurs before or during labor. The labor is usually easy and of short duration with little or no hemorrhage and the infant seldom survives. The mother may survive for several days but, unless blood transfusion has been employed, usually dies on the second or third day or recovery occurs. There is usually a rapid increase in the cell count, probably due to the expulsion of the placental toxin and consequent more favorable circumstances for the bone marrow. Those patients with splenomegaly more often recover.

The diagnosis is made from the blood findings. The treatment consists of blood transfusions, repeated just as often as is necessary to give the desired results. Often the results following a single transfusion are almost miraculous, but in a majority of cases, the procedure must be repeated a number of times. Apparently there is little danger of giving too much. Transfusions are of little avail before delivery except as a

supportive measure, their real curative property being exhibited following expulsion of the fetus. However, termination of the pregnancy should not be routinely done, since the results are better if the labor occurs spontaneously.

The cases to be reported are as follows:

CASE 1—Mrs. J. W. E. (8995), 22, white, mother of three children, was admitted to the hospital complaining of sore mouth, headache and backache, low blood pressure and nausea. She had been delivered one month before of living child. The labor was short and easy, and no blood was lost. She had not felt well during her pregnancy and during the latter part was too weak to do her housework. Examination revealed a pale, undernourished white girl of 22, expression anxious, weight 91 (had lost 27 pounds in two months), pulse 126, blood pressure 100/60, temperature 102 F., mucous membranes pale, few small ulcers in mouth, chest and abdomen negative. There was no edema. Urine negative, R.B.C. 1,810,000; hemoglobin 30 per cent., W.B.C. 2,400, low polynuclear count. A diagnosis of pernicious anemia of pregnancy was made and transfusion immediately done with excellent benefit. Donors were easy to find and the transfusion was repeated every three days until three had been given. When allowed to go home on the 11th day, the red count was 4,170,000 and hemoglobin 70 per cent. She felt fine; the sore mouth had cleared up and the weakness was gone.

One month later she was again admitted to the hospital, this time complaining of severe soreness in the perineum with burning and itching. The vaginal mucosa was fiery red and dry, there was no leucorrhea, and no bacteria were found. In addition there was a very painful proctitis. The red count had fallen to 3,070,000 with hemoglobin 65 per cent. Transfusion of 500 c.c. citrated blood was immediately done, cold applications applied to the perineum and the patient put at rest. With no other treatment, the recovery was rapid and in twelve days the patient was again discharged in excellent condition, though the exact nature of the vaginitis and proctitis was never determined.

CASE 2—Mrs. R. M. (7297), 28, was admitted 4/19/28 complaining of shortness of breath and weakness and swelling of the extremities. She had noticed the trouble to a minor degree during her pregnancy, but the symptoms had become more pronounced since the birth of her baby five days before admission. Temperature before delivery had been 102 for several days, the labor was easy and a living child resulted. She had had six pregnancies previously, but never had any difficulty such as this. The past history was negative. Examination showed a young white woman lying quietly in bed, breathing rapidly and looking very anemic, expression

anxious. The skin was dry, mucosae pale, pulse thready, and feeble systolic murmur at base of heart transmitted along the aorta, chest negative, lochia apparently normal, extremities markedly edematous. Blood pressure 100/60; urine negative; B.B.C. 1,100,000; hemoglobin 20 per cent.; stained smear showed all the characteristics of a grave anemia; Wassermann negative. A diagnosis of pernicious anemia of pregnancy was made. Air hunger was becoming a noticeable feature and a transfusion of 500 c.c. whole blood was given with immediate relief of all symptoms. She was then put on an anti-anemic diet, daily intravenous injections of iron and arsenic. Two days later the R.B.C. being 2,320,000, and the hemoglobin 35 per cent., she was given a second transfusion and the treatment continued as before. Her condition grew better very rapidly, the heart murmur disappeared and the edema of the extremities cleared up. A third transfusion of 500 c.c. was given on the 26th (the seventh day after admission) and when discharged on the tenth day, the red count was 4,820,000 with a hemoglobin of 70 per cent. When seen six months later she had gained 60 pounds and was apparently in perfect health. The child survived.

That the tendency toward pernicious anemia of pregnancy is a part of the constitutional makeup and returns with each pregnancy is shown by the next two cases.

CASE 3—Mrs. J. E. C. (8963), 36, mother of 10 children, the youngest three weeks old, was admitted to the hospital May 28th, 1930, complaining of weakness, shortness of breath, fast heart and pain in the chest. She had been delivered three weeks before and had been unable to raise herself or to take nourishment since then. The pregnancy was rather uneventful except for a minor discomfort of dyspnea during the latter half which she thought was due to abdominal distention and weakness. The weakness she accepted just as "part of her condition." The labor was easy and no blood was lost. Examination at the time of admission revealed a thin white woman of about 35, very pale, expression anxious, mucosae very pale, pulse 140, thready and feeble, blood pressure 115/80, temperature 100.8, abdomen negative, slight soft edema of ankles and feet. The urine contained a trace of albumin, R.B.C. were 2,780,000, hemoglobin 25 per cent., W.B.C. 5,000, 65 per cent. polys, and 35 per cent. mononuclears.

On the strength of history of an anemia occurring during and following a pregnancy and the blood findings, a diagnosis of pernicious anemia of pregnancy was made and a transfusion of 500 c.c. whole citrated blood given. Immediate benefit was noticed. The skin assumed a pinkish tinge, the dyspnea disappeared, and the patient was able to move about by her own efforts. Due to inability to secure satisfactory donor, another transfusion could not be given and daily intravenous doses of iron cacodylate

were substituted. The recovery was rapid and the patient was discharged at the end of two weeks in excellent condition, with a R.C. of 3,720,000 and a hemoglobin of 50 per cent. Two months later the R.C. was 4,720,000 while the hemoglobin was 60 per cent. The child survived.

She was again admitted to the hospital six months later, pregnant, complaining of weakness, edema, shortness of breath on exertion and lack of appetite. Examination was negative except for a pregnancy of about six weeks' duration, edema of the extremities, and R.C. of 2,880,000 and hemoglobin of 40. Because of her previous anemia, a therapeutic termination of pregnancy was done and a transfusion of 500 c.c. whole blood given. She was then put on an anti-anemic diet and allowed to return home to be cared for by her family physician. She is now in excellent health.

CASE 4—Mrs. J. A. H. 33, was admitted January 11th, 1928, complaining of weakness, headache, heartburn, diarrhea, puffiness under the eyes and swelling of feet and ankles. She had had several children and the weakness began following the birth of a child two years before. She had been treated with indifferent success since. Past history negative except for gradual loss of 25 pounds until the beginning of the present illness. Examination showed a poorly nourished white woman of about 35, expression anxious, skin lemon-yellow, lips and mucous membranes very pale, eyelids swollen, conjunctivae almost white, chest and c.-v. system negative except for extremely feeble pulse, seven-months pregnancy and edema of feet and ankles. Urine was negative, R.C. 880,000, W.C. 13,600, hemoglobin 30 per cent. There was a polynucleosis, abnormal shapes and sizes and red cells stained very dimly. The diagnosis of pernicious anemia of pregnancy was made.

She was given blood transfusions of 500 c.c. whole blood on the second and sixth days with excellent results. The R.C. reached 2,260,000 with a hemoglobin determination of 45 per cent. on January 17th. In the meantime, the patient had a spontaneous delivery of a seven-months' fetus during the night of the fifth day of admission. The labor was very rapid and easy with no blood loss. The child survived only a few hours. Following the delivery, she recovered very rapidly and was discharged on the twentieth day in good condition, the red cell count being 3,420,000 and the hemoglobin 60 per cent.

Nothing more was heard of her for 16 months. She was then admitted the second time on May 5th, 1929, pregnant, complaining of extreme shortness of breath and weakness.

Examination revealed that her condition was one of extreme anemia associated with a seven and a half months' pregnancy. Her condition was identical with that of her previous admission of January 11th, 1928. The patient was breathing rapidly and was given 1000 c.c. saline and glucose intravenously. At 5 p. m. she began to complain of cramp-like

pains in the lower abdomen. At 8:30 they had become very severe and were accompanied by complete dilatation of the cervix. Delivered at 10:40 of a dead fetus of about seven-months' gestation. Placenta showed many necrotic caseous infarcts. Following delivery she was given saline and glucose intravenously followed by saline subcutaneously during the night, and on the following day 500 c.c. of blood from her husband who was a perfect match. Her general condition improved immediately. The air hunger cleared up, cheeks became flushed, lips pink and the patient was very bright; temperature and pulse-rate fell markedly. For the next two days the patient did well and seemed to be gaining in strength very rapidly. She was given high caloric food with liver preparation. On May 8th, the profuse diarrhea began with blood in large quantities. This diarrhea did not respond to bismuth and opium. On the night of the tenth she was given 350 c.c. of blood from her husband followed by glucose and saline intravenously without any response. The next morning she was given 500 c.c. of whole blood from a friend who was a previous match. Again she failed to show any reaction. Her condition grew steadily worse during the day and she died May 12th. Cause of death pernicious anemia of pregnancy.

CONCLUSIONS

1. The majority of pregnancies are attended by a mild degree of anemia, the so-called physiological anemia of pregnancy.
2. Physiological anemia tends to a spontaneous cure following delivery and responds well to ordinary anti-anemic treatment.
3. In a small percentage of cases, the anemia assumes serious proportions and becomes the pernicious anemia of pregnancy.
4. Pernicious anemia of pregnancy is an acute hemolytic anemia occurring during and as a result of pregnancy, progresses steadily without remissions and is cured readily by blood transfusions.
5. The diagnosis is easily made by a study of the blood picture and a frequent red cell count and hemoglobin determination should be a part of pre-natal care.

Bibliography

1. NASSE, H.: *Das Blut, Bonn*, 1926.
2. CHANNING, W.: *New England Quarterly J. Med. and Surg.*, 1842, 1, 157-188.
3. ALLAN, W.: Hemolytic Anemia in Pregnancy. *Surg., Gyn. and Obs.*, 1929, 17, 84-89.
4. GALLOWAY, C. E.: Anemia of Pregnancy. *Jour. A. M. A.*, Nov. 30, 1929, Vol. 93, No. 22. GALLOWAY, C. E.: Anemia in Pregnancy. *Amer. Jour. Obs. and Gyn.*, 1929, 17, 84-89.
5. BLAND, GOLDSTEIN and FIRST: Physiological Anemia of Pregnancy. *Surg., Gyn. and Obs.*, June, 1930, Vol. 1, No. 6.
6. NALLE, B. C.: Anemia of Pregnancy. *Southern Med. Jour.*, June, 1930, Vol. 23, No. 6.
7. AUBERTIN, CHARLES: Pernicious Anemia of Pregnancy. *Presse Medicale*, 32:13, January 5, 1924.
8. ADLER, ALBERT: *Ztschr Geburtsh U. Gynak*, 1924, lxxxvii, 505-518.
9. NYFELDT, A.: Exp. Pregnancy Anemia. *Hyes-krift fur Laeger*, 89:296-297, 1927.
- BENDA, R.: Pathogenesis of Pernicious Anemia induced by Gestation. *Zentrallb of Gynak*, Leipzig, 48:1857-1860, 1924.
- ESCH, P.: Pernicious-like Anemia of Pregnancy. *Arch. Gynak.*, 129-788-801, 1927.

CHRONIC MICROCYTIC ANAEMIA

(L. J. Witts, London, Brit. Med. J., Nov. 14th)

Chronic microcytic anaemia, for which none of the usual causes of secondary anaemia can be found, occurs with considerable frequency in women of reproductive age. The women affected are generally of asthenic constitution, and achlorhydria is present in 80 per cent.

The anaemia shows little or no tendency to improve until after the menopause, when it may disappear spontaneously. The spleen is palpable in one-third of the cases but recedes beneath the costal margin on repair of the anaemia. Superficial glossitis, indistinguishable from the sore tongue of pernicious anaemia, is present in one-half of the cases.

In a case of average severity a blood count of 3,500,000 red cells per c.mm., haemoglobin 35 per cent., and a colour index of 0.5, are to be expected. Sometimes the total number of red cells is normal and there is a pure haemoglobin deficiency. The mean diameter of the red cells is usually diminished and never raised. Reticulocytes are within normal limits and occasional normoblasts are present.

Transfusion is temporarily effective, but soon followed by relapse. Liver, liver extract, liver ash, desiccated stomach, and hydrochloric acid, are all without effect on the anaemia. Copper plays no part in the action of the large doses of iron.

The anaemia must be treated with iron by mouth. Small doses and injections are useless. The minimum effective dose of iron and ammonium citrate is 60 grains a day, and of Bland's pill 30 grains; I prefer 90 grains and 40 grains, respectively. I would emphasize that effective treatment nearly always takes three months, while it may need a year. Treatment must be continued till the haemoglobin is raised to 80 per cent., for relapse is then much less frequent. The results of vigorous treatment with iron are uniformly good. Failure means either a wrong diagnosis, too small a dose, or a complication such as an active septic focus. Large doses of iron are well tolerated and improve digestion.

Treatment is simple and effective. All cases respond to iron, provided it is given by mouth in large doses for an adequate period of time. Liver is of no value. Owing to the risk of relapse, it is advisable to continue a small maintenance dose of iron after the anaemia has been cured.

Summary of Brain and Spinal Cord Lesions*

ARCHIE A. BARRON, M.D., F.A.C.P., Charlotte, N. C.

The majority of us are loath to inform ourselves concerning diseases of the central nervous system whether they be functional or organic, acute or chronic. If we will analyze our work we will find that a large percentage of it deals directly or indirectly with this part of the anatomy. Without attention to this field we are greatly handicapped in the general practice of medicine.

It is not my purpose to go into detail as to the many various diseases of, and those involving, the central nervous system. I wish to give a partial summary of these diseases.

FUNCTIONAL NERVOUS DISEASES

In this classification we find the psychoneuroses, the psychoses, the psychopathies and the epilepsies. In my series are

1900	in the psychoneurosis classification
300	" " psychosis
350	" " epileptic

I realize the difficulties and dangers in making a diagnosis of a psychoneurosis. Headache, not of a migraine type, is a very common symptom in this class of cases and it is usually mistreated. As a consultant of the Regional Office of the Veterans' Bureau for the State of North Carolina, in the examination of some 6,000 ex-service men, I have seen neuro-circulatory asthenia (effort syndrome) as a frequent manifestation, and it constitutes a disability in a larger percentage than you might think. The psychoneurotic usually has an unstable background. His case is usually poorly diagnosed and he is poorly treated. Abnormal behavior, manifesting itself in anti-social tendencies and even criminal delinquencies, is usually the chief expression of a psychoneurosis in a child. The psychoneurotic individual should be treated as specifically and definitely as we would manage a patient with heart disease or tuberculosis. Epilepsy constitutes a rather large proportion of cases. Ketogenic diet and limitation of fluid therapy, while not productive of sensational results, are about as effective, sometimes more spec-

tacular, than what we are able to achieve in ordinary hypertensive or nephritic cases, or any other case that we do not know much about. Of the 75,000 mental cases admitted to our institutions annually, between 20 and 30 per cent. of them belong to the dementia praecox type.

ORGANIC CLASSIFICATIONS

In the organic group we will have to consider conditions due to trauma and disease. Of trauma, the largest number, some 350 cases, are peripheral nerve injuries; 99 head and spinal cord injuries; 105 cerebrospinal meningitis, acute and cases with symptoms due to sequelae; 105 lues of central nervous system; brain tumors 48; encephalitis, acute and sequelae symptoms, 36; cases presenting symptoms of sciatica 240; hemiplegia 130; lesser numbers of multiple sclerosis, progressive muscular atrophy, lateral sclerosis and other degenerative central nervous system lesions.

We should be on the alert to interpret various symptoms and to inquire as to symptoms that are possibly present which are referable to that part of the anatomy involved. Headache is a common symptom, and, if there is much increased pressure, such symptoms as nausea and vomiting, visual disturbance, epileptic seizures, mental dullness, dizziness. We should be on the alert for aphasic symptoms, hallucinations, disturbance in sense of smell and taste, double vision, disturbance in sensation, reflex disturbance, limitation of field of vision.

BRAIN TUMORS

The peak for tumors of the brain is reached between the ages of 40 and 45. Tumors of the brain occur in the ratio of 1 in childhood to 6 in adult life, unless many go unrecognized. In children cerebellar lesions are 2-to-1 more frequent than cerebral, whereas in adults it is about 1 cerebellar to 5 cerebral. Most children with cerebellar tumors will soon have enlarged head, and this enlargement is

*Presented to the Mecklenburg County (N. C.) Medical Society, November 24th, 1931.

commonly followed by cessation of headache. Children will not as a rule complain as quickly of disturbances of vision and not infrequently appear well in spite of vomiting, as in a case of a child of five years brought to me because of weakness in lower extremities and unsteadiness in gait, a symptom which had been present for about two months. For a period of 18 months, however, without causing any anxiety on the part of the parents or others the child had been under treatment for headaches, weak eyes, removal of tonsils, etc. She had also had for a year rather frequent nausea. Her headaches had recently become less. She had a rather large head, very unsteady gait, tendency to fall to the left, choking of discs. A tentative opinion was expressed that she had a cerebellar tumor. At operation left cerebellar tumor was removed.

Not infrequently some one symptom gives us a lead or practically makes a diagnosis for us. The function of the brain is rather complex but we should be on the alert for the disturbance of some function relegated to some areas of the brain. The inability to judge form, size, shape and name of an object in one hand—astereognosis—while not necessarily diagnostic, should make us strongly consider a parietal lobe lesion.

Mr. B., age 54, had been a sufferer from headaches and high blood pressure for several years. On examination showed a weakness of right side with increased reflexes. Inability to recognize objects in right hand. Questioning him he said for some six months he had noticed some progressive loss of ability to recognize objects in right hand. He has also had some choking of discs. At autopsy large glioma in right parietal lobe was found.

The next case is another of parietal lobe lesion in a man of 40. Had suffered with some headaches for years. He had not become concerned about himself until one day he reached in his pocket for his keys and found himself unable to tell when the keys were in his hand, though he was not paralyzed. He exhibited a moderate choking of discs and more active reflexes on right side than left. At operation a large glioma was found involving right parietal lobe.

Unconscious attacks, dreamy states, convulsive seizures should always be considered on an organic basis until proven otherwise. Temporal lobe lesions frequently present two focal symptoms which are of diagnostic value, first olfactory hallucinations frequently followed by dreamy states, a feeling of unreality and

occasionally accompanied by smacking movement of lips as illustrated in the following case:

A woman, 50, with a history of some headaches and no other conspicuous symptom until about six months prior to examination, while sitting in back yard she experienced a very offensive, foul odor. This lasted only a few seconds and was followed by fainty attack. She had recurrent similar attacks. At autopsy glioma involving left temporal lobe and uncinate gyrus was found.

Another case recently seen: a woman, 36, had not felt well for about a year, had been having recurrent attacks of olfactory sensations followed by a dreamy state in which she felt unreal and this would be followed by smacking movement of lips. This woman had a very good insight into her condition and related a good history. She could have been very easily mistaken for a psychoneurotic. She had made no particular complaint of this condition until she developed a pyelitis and got acutely ill.

A young man, 21, consulted me with a history of recurrent seizures similar to an ordinary epilepsy. Headaches rarely noticed except after attacks. He had no disturbance in sense of smell, nor visual hallucinations. His general examination was essentially negative except right knee jerk was a little more active than left. X-ray studies of head negative. Not seen again for four years. At this time he displayed weakness in right side with increased reflexes, choking of discs. At operation large glioma was found involving left temporal lobe.

Convulsive seizures may be the first noticeable symptom in the young with brain tumors as in the following case; also this case illustrates how rapidly sometimes tumors apparently grow:

A negro boy, 12, apparently in good health, began having convulsive seizures. In a few weeks' time he had some meningeal symptoms, stiffness in neck, a rapid choking of discs, coma and death. Autopsy revealed a rather massive tumor involving left frontal, parietal and occipital lobes.

Mr. B., 44, consulted me for nervousness. His chief weakness as he described it was that he would get shaky when he got up to teach Sunday school class and he would forget what he wanted to say; this would be followed by weakness. The question arose after studying him whether or not he was suffering with some aphasic symptoms, a *petit mal* epilepsy, or both. His examination was essentially negative except a slight hesitancy in speech which he said had been present all of his life. Field of vision revealed no abnormal findings. X-ray study of head was negative. He was seen a little later with no change. Five years later he reappeared

having mild convulsive seizures, very definite aphasic symptoms, choking of discs, weakness in right side. At operation a massive glioma was found involving temporal and occipital lobes.

CORD TUMORS

Any cases exhibiting weakness, paralysis in extremities, pain and sensory disturbance unaccounted for should make us consider the possibility of a spinal cord tumor.

Lad of 19, first symptom to attract the patient to his condition occurred ten months prior to my seeing him while he was working in field. He had what he termed a catch in the back after lifting a rock. He soon noticed some weakness beginning in lower extremities. His weakness progressed and he became totally paralyzed in lower extremities, with inability to void or control bowels. When I saw him in February he had a complete bilateral paralysis of lower extremities and complete loss of sensory disturbances corresponding to the eighth thoracic segment. Lumbar punctures showed a complete block. A good-sized tumor at the eighth dorsal was comparatively easily hulled out. Six months later he is able to walk with the aid of crutches, has control of his bowels and bladder.

Metastatic involvement of lower spine and spinal cord should be thought of in certain types of cases, as, for example:

A man of 58, who had been a sufferer with severe pain in lower spine and inability to control bowels or bladder for some while. Examination revealed a typical horse-shoe anesthesia in and about the anal region and thighs, symptoms of a cauda-equina lesion. At operation an extensive malignant lesion involving the sacrum was found.

ACUTE INFLAMMATORY AND SUPPURATIVE CONDITIONS OF BRAIN

It is frequently difficult to differentiate acute non-suppurative inflammatory condition of the brain from the acute suppurative. There are many cases of acute encephalitis or cerebritis which simulate an abscess. This condition follows acute infection, also measles and chicken pox. Occasionally it follows typhoid vaccination and presents symptoms characteristic as to the part of the brain most involved, *viz.*, meningeal type with headache, stiffness in neck, convulsions; cortical type in which convulsions are the most prominent symptoms; brain-stem type in which we have somnolence, rigidity, tremors, twitching with altered reflexes; the myelitic form with involvement of lower motor tracts producing a picture simulating that of poliomyelitis, some-

times complete paralysis; the tetanic form in which we have symptoms similar to tetanus.

Brain abscesses frequently follow some sinus infection. Patients with sinus condition are more apt to develop frontal-lobe abscesses, those with ear diseases are more likely to develop temporal-lobe involvement. Patients may present symptoms suggestive of an abscess when none is present. The writer reported three cases in 1929 with some choking of discs and other findings very suggestive of an abscess. None were present. The mental condition of patients suffering from frontal-lobe abscesses is apt to show a certain variability which is at times characteristic, drowsiness with mental confusion, at other times more alert and rational. This dipping of consciousness, as described by Howell, is not exhibited to the same degree in uncomplicated ear disease, nor in patients suffering from meningitis or sinus thrombosis. This was very well illustrated in a case previously reported.

A woman, 28, with a history of influenza with high temperature and considerable nasal discharge, developed a sinusitis. For a short while improved, then came periods in which she was disoriented and confused. At other times perfectly rational, able to be up and walk about and attend to duties. Operation revealed frontal lobe abscess.

The treatment of pneumococcus meningitis, more particularly type 3, is very unsatisfactory. Weinberg reports one favorable case following the use of potassium permanganate by rectum.

CHRONIC INFLAMMATORY OR DEGENERATIVE DISEASES

Pernicious anemia, not unlike syphilis, is frequently somewhat masked. Central nervous system symptoms in pernicious anemia are rather common. Not infrequently an ordinary routine blood picture will be normal even when the nervous symptoms are very severe. Not long ago I was asked to see:

A woman, 50, for the possibility of a cord tumor. Main symptoms were weakness of lower extremities and inability to walk. She had a smooth, pale, wasted tongue, variable reflexes, variable sensations, marked ataxia and inability to walk without help. It was evident we were dealing with a rather diffuse lesion. Her blood picture was normal and repeated blood studies previously had been normal. On several occasions she had been told she had syphilis. Stomach analysis showed no free HCl. Present-day

routine treatment of pernicious anemia enabled her to make at least temporary recovery and to walk.

Syphilitic involvement of the central nervous system is a rather common condition. Much attention has been paid during the past few years to fever and heat therapy. Of four cases which have been given malaria that have come under my observation three have received very beneficial results, two spinal fluids have become negative. These were favorable cases and belonged to the acute, rather maniacal type.

Anti-syphilitic action of malarial parasites has not been established. Baugh and others were able to demonstrate histologically that the beneficial action obtained by this form of treatment is due to the stimulation of the reticulo-endothelial system. They believe that the phagocytic bodies are inactive at normal temperature but become very voracious when temperature is raised, the temperature being an activating factor only, hence hyperpyrexia has been given the credit for the beneficial results. Dennie and others take issue with this and show two cases to prove that fever is not necessary to secure good results with malarial therapy. They do not believe that diathermy will act very beneficially unless some foreign protein is given at the same time. They reported two cases of acute interstitial keratitis markedly benefited by malaria therapy, one of which was uninfluenced by mercury. In one case of hyperplastic bone syphilis the action of malaria therapy was apparently very decided.

AN ESSAY ON THE QUALIFICATIONS AND DUTIES OF A PHYSICIAN

(Wm. Tazewell in *Trans. Medical Society of Va.*, 1821, from *Medical Recorder*, 1826)

Correctness and perspicuity in speaking and writing are more necessary in the medical than any other profession; for beside the serious evils that might attend the misconception of a physician's instructions, verbal or written, errors in either are but too well calculated to expose him to the suspicion of equal deficiency in professional information.

The elements of drawing will prove not only an accomplishment, but, in many instances, an acquirement of real utility to a physician. It is much to be regretted, that the literati of the world had not entered into a compact, at an early age, by which they should have been held bound to write in the Latin only.

In lieu of Greek, as calculated to be attended with greater literary profit, I would advise that the youth intended for the profession of medicine, should apply himself to the study of the French, this most elegant of the living languages. I shall only add, that so easy is its attainment that by a youth of ordinary capacity, a competent knowledge of the language, scientifically studied, may be acquired in the course of two or three months.

The student should be put on his guard, lest he be insensibly led into a labyrinth of metaphysics, abounding too much in data, the offspring of the imagination; too little in truths derived from, and supported by, experiment.

The separation of physic from surgery, in some countries of Europe, has been attended with the worst of consequences.

Much has been said on the subject of professional dress and address, but I can see no reason why the general character of a physician's habiliments or manners should differ from those of his fellow citizens; and in relation to his general deportment, should his professional duties require it, he may surely be affable without condescension, grave without austerity, and cheerful without frivolity.

A physician, as far as may be consistent with other important considerations, should sedulously avoid all untoward prognostications. Evils visit us in a pace sufficiently rapid, and the approach of misery and despair should not be accelerated by those to whom the patient and his friends look, not only for the administration of bodily relief, but hope and comfort.

An honest physician may discontinue his charges for unavailing attendance, but it is as much his duty to alleviate pain, soothe the mental anguish and smooth the path of departing life, as to cure disease.

Heberden, in a letter to Doctor Percival, thus happily expressed himself:

"I have retired from the practice of physic, I trust from no wish to be idle, which no man capable of being usefully employed has a right to be, but because I was willing to give over before my presence of thought, judgment, and recollection were so impaired, that I could not do justice to my patients. It is more desirable for a man to do this a little too soon, than a little too late, for the chief danger is on the side of not doing it soon enough."

I can not dismiss the subject without enjoining upon my medical brethren, especially those who have entered the school of Nature and Experience, by no means to relax in their efforts to improve our science. Its fields are vast, and as yet but little explored. Avaunt the idea that a man may be born a physician, or yet become one by intuition! Such ideas are entertained only by the indolent and illiterate. A knowledge of medical science is to be derived from education and study alone; and to attain eminence that study must be regular and long continued.

The Value of Pre-Operative Study

R. M. POOL, M.D., Fairfield, Ala.

From the Surgical Section, Employees' Hospital, Tennessee Coal, Iron and Railroad Company

It has been frequently said, and perhaps with justice in many cases, that more brains are required in the making of an internist than in the manufacture of a surgeon.

It is our belief, however, that this opinion had its origin in that type of surgeon who permits himself to be a mere technician, rather than the conscientious medical man who would prefer to study his cases by every means of modern investigation. This would include as careful preparation as possible in all phases of diagnosis, together with routine consultation with a skilled internist in every case, except possibly the most dire emergency.

There can be no question of the fact that untold thousands of unnecessary surgical operations are performed in this country each year, and that thousands of helpless patients are irreparably damaged through lack of proper consideration for the patient and by lack of careful study before operation is undertaken.

Perhaps the most abused type of surgery is in that great class of patients commonly considered as "emergencies," or perhaps more frequently classified as "acute abdomen." This is unquestionably due to that curious custom on the part of many surgeons of considering every case of acute abdominal pain as a surgical emergency.

It is one of the purposes of this paper to attempt to show that there are few surgical emergencies, especially as applied to the acute abdominal conditions, in which increased danger to the patient is incurred by a few hours of carefully considered study, or in which damage could be done to the patient by taking the time necessary for consultation with an internist.

The acute abdominal conditions can be conveniently thought of under one of the following heads:

1. Hemorrhage.
2. Obstruction.
3. Inflammation.
4. Perforation.

Based on the assumption that the patient

is seen within a very few hours following the onset of an attack of abdominal pain, it must be admitted by even the most radical of surgeons that little harm can be done by a short added period used in study of the case, except possibly in such cases as perforation of a duodenal or gastric ulcer, typhoid perforation, and possibly hemorrhage due to hidden trauma, or from the ruptured uterus or tube. It must be admitted that the most common of emergencies, an acutely inflamed appendix, will not perforate under five hours from the beginning of the attack once in a thousand cases. Why not admit, then, that there are very few conditions in the abdomen that are truly urgent surgical emergencies?

Even in cases that are plainly and admittedly of the acute abdominal type, there still remains the large question as to whether or not an immediate operative procedure is proper. This refers especially to cases of localized or generalized peritonitis of known or unknown origin. Every careful surgeon who has the ability to think logically and who conscientiously studies his end-results, must admit to himself that there can be no question of the value of non-interference in certain cases of acute peritonitis, and that many lives have been saved by a policy of non-interference until Nature has accomplished localization of such infections.

When all is said, much depends on the honesty, judgment and experience of the surgeon. Those great questions which always confront him: what to do?, when to do?, and how to do?, should not be left entirely to his individual judgment, but should be given the aid of group diagnosis, particularly that of the internist, every facility of the well equipped laboratory, and of specialists in various lines.

It has been our fixed rule at this hospital to admit every surgical patient, except those suffering from injury, to the medical service for careful preoperative study. If the case is considered as a surgical emergency by the medical service, immediate consultation is held with the surgical service and a course is

decided on. Cases other than emergencies are carefully studied and no surgical procedure is decided on until complete examinations have been made by both services and agreement reached through consultation.

It is the fixed rule of the surgical service that no operation be undertaken without the approval of the medical service. In other words, if the patient is regarded by the medical service as an unjustifiable risk, operation is not considered. The surgical service, however, reserves the right to decline operation in cases considered surgical by the medical men if they are unable to agree with the medical men as to the advisability of operation or diagnosis.

Routine examinations by the medical service, even in what are commonly regarded as surgical emergencies, always include:

1. Examination of heart and lungs
2. Blood pressure
3. Urinalysis. If possible, stool examination
4. Blood examinations
5. T, P and R.
6. Scout plate of abdomen and chest
7. The written opinion of the examining internist
8. Last, but not least, the written opinion of the surgeon, based on the findings of the internist and on his personal impression after examination of the patient.

Among the many things with which we have been confronted in the making of a differential diagnosis between a true surgical emergency and some other more obscure condition, we will mention the following:

1. Pneumonia
2. Malaria
3. Visceral crises or luetic cord involvement
4. Idiopathic peritonitis or so-called influenza peritonitis
6. Renal lesions, especially calculi
7. Acute gastrointestinal conditions, as from some dietary indiscretion
8. Spider bites.

Each of these conditions is illustrated by the following case reports. For convenience these are submitted in very brief summary:

CASE REPORTS

1. Pneumonia

One of the staff physicians was admitted at 3:15 a. m., 4-12-24, with acute epigastric pain, following

vomiting about midnight. Epigastrium was rigid and tender; lower abdomen was flaccid and slightly distended. Temperature 102°, pulse 120, respiration 24, w. b. c. 18,500. Apparently an acute abdominal condition, suspicious of ruptured gastric ulcer.

The patient was quite sure of his condition. He had been told previously that he had a gastric ulcer and he was firmly convinced that his present trouble was from a perforation. However, about one hour after admission the picture had changed and symptoms were more referable to his chest. He had an expiratory grunt, was coughing up blood-tinged sputum and auscultation of chest revealed a beginning pneumonia in left base, verified by x-ray.

2. Malaria

White girl, 19, admitted 9-2-28, with history of pain in right lower quadrant of 48 hours duration; had been nauseated and had vomited. Very tender at and below McBurney's point; some rigidity; no masses felt. Temperature 102°, pulse 90, respiration 20, w. b. c. 12,500. Urinalysis (voided specimen) pus 1-plus.

In past two years this patient had been seen several times in the Out Clinic and had been told she had some trouble with her appendix, and that if acute attack occurred appendectomy would be advisable.

Two hours after admission her abdomen was opened. No fluid was found in abdomen; no sign of peritonitis; pelvis and right kidney normal; no mesenteric glands palpable. Appendix was short, free, thick and contained several concretions. There was not enough pathology in appendix to cause fever and other symptoms. Appendectomy was done.

We were caused further concern because shortly after operation her temperature was 103.2° and at midnight it was 104.6°. However, the next day blood smear was made and examined for malaria, with positive findings. Quinine was administered, temperature came to normal, and patient made a satisfactory recovery.

3. Gastric Crises

White man, 27, admitted to hospital 3-19-27 in state of shock, with history of having severe abdominal pains and cramping in muscles of legs of about 6-hours duration. Examination of abdomen revealed bilateral inguinal herniotomy scar; marked rigidity of entire abdomen; no distention; no masses palpable; very little pain on pressure. Temperature 97°, pulse 104, w. b. c. 14,750. Urine—albumin trace, occasional r. b. c.

External heat was applied and morphine given. Tentative diagnosis: perforated gastric or duodenal ulcer—gastric crisis—renal calculus. No operation advised on admission. After 4-hours interval abdomen still showed a board-like rigidity, pulse slower, and state of shock less noticeable. In spite of the continued rigidity of the abdominal muscles, this was not considered as a surgical emergency. Further investigation within the next 24 hours led us to the

correct diagnosis of gastric crisis. Nose examination revealed a perforated septum. Blood Wassermann was negative; spinal Wassermann was 100 per cent. positive. Colloidal gold test showed luetic curve; negative cell count. Antisyphilitic treatment was given and patient was allowed to go home after five days in the hospital. He has been under observation in the Out Clinic since discharge from the hospital, and is receiving at regular intervals antisyphilitic treatment.

4. Idiopathic (or Influenza) Peritonitis

Negro woman, 22, a graduate nurse. Admitted 7:55 p. m., 10-27-28, having been sick 24 hours. Her own impression was that the present condition was due to a dietary indiscretion, as she had had two glasses of punch at a party the night before, and later had eaten a barbecue sandwich. Pain began in epigastrium and around umbilicus and later was low in right side of abdomen and around McBurney's point. She was nauseated and vomited and took Mg SO₄, with very little result. Had an s. s. enema with fair results.

Examination of abdomen showed some rigidity, especially on right side; very tender at umbilicus and over entire right half of abdomen. Pelvic examination was negative. Temperature 101.4°, p. 100, r. 20, w. b. c. 33,000. Very questionable abdomen and no operation was advised that night. The following a. m. her condition did not seem any better—pulse was faster, 110, t. 101° and operation was advised. This was about 12 hours after admission; appendicitis seemed most likely lesion. Abdomen was opened, revealing a marked generalized peritonitis, with considerable cloudy fluid and some exudate. Negative organic exploration. Appendix was negative and not removed. Abdomen closed with drainage. Patient made an uneventful convalescence. Has been seen in Out Clinic since discharge, and is well.

5. Hookworms

White man, 20, admitted 7-10-26, with history of acute abdominal pain about 10 days prior. Pain was generalized at first, then seemed localized in lower right quadrant, and after two days had practically disappeared. During acute abdominal pain, he was nauseated and vomited.

On admission, t. was 99°, p. 88, r. 20, w. b. c. 11,000. Urine negative. No stool examination was made. X-ray plate of kidney region was negative for stone shadows. Abdomen showed good muscle tone, but no rigidity; very little, if any, tenderness in right lower quadrant and no masses palpable.

Appendectomy was done 7-12 and appendix was described as being subacutely inflamed. Patient made a good recovery from operation and was discharged 7-20.

He was readmitted 2-2-27, with history of continued abdominal discomfort of a rather vague nature. In the course of further examination it was found that this patient had a small duodenal ulcer,

and that he also had a positive hookworm infection.

He was treated for parasites and given a modified Sippy diet, with very satisfactory improvement.

6.—Renal Lesion

White man, 28, admitted to hospital 7-26-29, with history of abdominal pain, nausea and vomiting during past 24 hours. T. 99°, p. 80, w. b. c. 12,000. After eight hours, w. b. c. 19,000; after three hours, 18,750. Abdomen flat, with considerable pain and tenderness in right lower quadrant, and some in left lower quadrant; no rigidity; no masses. Stool negative. Psp. 85 per cent. Urinalysis: albumin 3-plus, pus 1-plus, r. b. c. 2-plus, occasional fine granular cast.

X-ray of abdomen showed small shadow over right side of pelvis, probably calcified glands. With such positive urinary findings, and with a suspicious x-ray, a tentative diagnosis of ureteral colic or ureteral calculus was made, and patient discharged 7-29, symptom-free.

Patient was readmitted 10-2-29, and history and symptoms seemed even more definitely renal or ureteral. Cystoscopy at this time revealed an obstruction in lower third of right ureter, probably calculus

7. Food Poisoning

White man, 21, admitted 9-21-29 in state of severe shock; epigastric tenderness exquisite; abdominal muscles rigid; pulse almost imperceptible. Blood pressure could not be obtained. Has been nauseated and vomited. Several loose stools before admission.

W. b. c. 20,750, t. 96°. Tentative diagnosis—1. Ruptured gastric ulcer. 2. Food poisoning. He was treated for shock, and in a few hours the entire picture had changed, and with additional history relative to some meat he had eaten, a positive diagnosis of food poisoning, or meat poisoning, probably due to the *B. of Gartner*, was made.

Patient gradually improved and was discharged 9-25 practically well.

8. Spider Bite

White man, 53, admitted 9-30-29, with intense pain in abdomen and lower extremities; board-like rigidity of abdomen. Pulse 64, blood pressure 138/84, t. 97°, r. 20. Urine negative. W. b. c. 9,500.

This could easily have been confused with some surgical emergency, but his history of having been bitten by a spider (*latrodectus mactans*) about 30 minutes before onset of symptoms helped greatly toward making a diagnosis.

Fever.—An elevation of the body-temperature above the normal.

Temperature.—The degree of intensity of heat of a body.—GOULD.

Absolutely zero is taken to be 273° below zero Centigrade (about 460° below zero F.) Anything above this is "temperature."

Case Report

HERNIATED HEART THROUGH DIAPHRAGM AND ABDOMINAL WALL

R. P. BECKWITH, M.D., Rosemary, N. C.

Evidently there is a hernia through the diaphragm as well as throughout the anterior abdominal wall, the latter extending from the ensiform cartilage to the umbilicus. There is no skin over the sac which projects about one and a half inches beyond the normal body surface. Apparently the sac is nothing but pericardium fused to the skin around the edges. There is nothing in the sac but the



heart, every pulsation of which is easily discernible across the room. When the child was born, due to the fact that it was impossible to support a sterile dressing, he quickly developed an infection of the umbilicus, which extended upward about two inches involving the pericardium and I expected that it would penetrate the sac and give us a suppurative pericarditis, but the infection was localized to the external surface of the sac and healed uneventfully. This child was born about eight months ago and today leads the life of any child its age except that exertion causes some cyanosis.

TREATMENT OF EPILEPSY: 1. general hygiene measures, 2. ketogenic diet, 3. dehydration, 4. drugs.

DRAINING THE SEPTIC UTERUS WITH GLYCERINE

(A. R. Hobbs, British M. J., Dec. 31st, 1927)

In S. M. & S. for November was abstracted an article by this author on Puerperal Sepsis, which referred the reader to a previous publication for details of treatment which has given excellent results. At that time the journal containing the treatment was being bound, and we promised to give details as soon as the binder returned it.—Editor.

The instruments required are: (1) a catheter introducer; (2) terminal-eyed soft rubber catheters; (3) an anterior vaginal wall retractor; (4) a modification of Sim's speculum; (5) 2 c.cm. and 10 c.cm. Record syringes.

No anesthetic, general or local, is necessary. The patient is placed in the lithotomy position, the external parts, then the vagina, are washed with ether, soap and water, and then with saline. A Sim's speculum is introduced into the posterior fornix and an anterior vaginal wall retractor into the anterior fornix, and by a series of gentle movements the cervix is manipulated into a central position. The speculum must not be pushed too far back, and the anterior vaginal wall retractor must be held horizontally and obliquely in the same plane. Thus a good view is obtained of the cervix, which becomes readily accessible. A terminal-eyed catheter is lubricated with glycerin, and gently inserted into the os, syringing the glycerin in front of the catheter for its easy progress to the fundus. The syringing is still continued as the catheter is withdrawn. This is repeated if the uterus contains much pus.

In more severe cases, the catheter in situ, the legs are lowered on to the table, and the syringe with the catheter still fixed on the end, is placed on a sterile pad on the symphysis pubis. A pillow is placed under the knees to add to the patient's comfort. The assistant, standing by the side of the patient, injects the glycerin slowly, giving a slow irrigation treatment to the uterus, for from twenty minutes to half an hour. In that time 60 to 100 c.cm. glycerin may be injected without causing the slightest discomfort to the patient. This may be done twice a day.

Many patients have suffered from recurrent attacks of pelvic peritonitis and prolonged uterine hemorrhages. Small quantities of glycerin have been injected into the uterus daily until the temperature has come down and if there is still much discharge and erosion the uterus is washed out occasionally with industrial methylated spirit under morphine gr. $\frac{1}{4}$. In cases of chronic hemorrhage, as in chronic metritis and fibrosis uteri, patients are given an anesthetic and the uterus is washed out alternately with methylated spirit and glycerin. This is repeated for about a dozen times. Subsequently in all cases the uterus is drained for the succeeding few days.

ERYSIPELAS patients should be isolated and aseptic technique observed in caring for them.

Notes On Diagnosis and Treatment

A Column Conducted By

THE STAFF OF THE PARK VIEW HOSPITAL
Rocky Mount, N. C.

For this issue, BYRD CHARLES WILLIS, M.D., F.A.C.S.

Suspected Gall-bladder Disease May Be Coronary Thrombosis

Before making a diagnosis of gall-bladder disease in a man beyond 40 who has attacks of upper abdominal pain it is well to consider and rule out the possibility of coronary thrombosis. These conditions can closely simulate each other. Recently a dentist entered the hospital complaining of attacks of pain in the upper abdomen that passed upward beneath the sternum, which required morphine for relief. There was no history of smothering sensation nor shortness of breath, no difficulty of swallowing. There was some gaseous discomfort and slight symptoms of indigestion, imprudent eating. There was a slight tenderness in the epigastrium; some nausea and vomiting following hypodermic. He had enjoyed good health up to two weeks previously. His temperature was 100 degrees, pulse 80, regular and of good volume, blood pressure 135/80, leucocytes 16,000. He had expected to return home but readily consented to stay in the hospital for gall-bladder study next morning. During the night he was seized with another attack, and the internist called to see him then realized that the man was suffering with coronary thrombosis. The gall-bladder study was called off for an electrocardiographic study which confirmed the clinical diagnosis.

Autotransfusion

Autotransfusion is many times life-saving, especially in ruptures of the spleen, liver and tube of ectopic pregnancy. It can readily be done with the assistance of a pupil nurse if the surgeon will introduce the needle before beginning operation, and the interval before opening the abdomen can be used to great advantage to give saline solution. On opening the abdomen, the blood is mopped with a dry sheet and squeezed into the saline container through a piece of sterile gauze spread over the top. Probably an easier and certainly a less soiling method is to squeeze blood into a warm saline basin and then pour

into container. It is a good rule never to evacuate the abdominal cavity of liquid blood unless contaminated with gastrointestinal contents or infection. Large clots should be removed lest they become organized and later cause intestinal obstruction. The liquid blood is left in, and just before closing the abdomen, a pint to a quart of warm saline is poured into the cavity, as it is rapidly absorbed into the circulation, especially if the foot of the bed is kept elevated for a few hours. This of course should not be done if infection of the abdomen is even suspected.

Aspirate Joint Before Opening

It is a good rule to aspirate the knee joint before opening, as a simple effusion may be converted into a purulent one. Of course the strictest aseptic precautions should be taken and great care used not to injure joint structures with point of needle, for if infection is present an osteomyelitis may be started. Smears and cultures should be made and the type of germ determined so that the proper sterilizing agent may be used—mercurochrome or gentian violet.

Cases to be Selected for Spinal Anesthesia

Like all other anesthetics, should be used in selected cases. It should not be given to patients already shocked, for it not infrequently produces marked lowering of blood pressure which will further embarrass an already crippled circulatory apparatus and be the deciding factor in the death of the patient. It is questionable whether it is good judgment to give it when the blood pressure is above 190, for it may cause such marked lowering of pressure that these patients recover with difficulty. To drop a systolic pressure suddenly from 200 to a hundred or less means much more than dropping a pressure of 130 to 60. The higher the pressure the less elasticity of the circulatory system.

* * *

Mercurochrome intravenously sometimes acts marvelously in what appears a hopeless case of septicemia but is often disappointing; nevertheless it should be tried. I well remember gentian violet acted like magic in a case of perforative appendicitis that was having two terrific chills a day.

* * *

In many cases it is better to give saline intravenously or subcutaneously than drugs

for cardiac stimulation. The fluid and salt will stimulate the heart better than drugs when there is no disease of the heart.

NEW METHOD OF OUTLINING THE HEART, ITS CHAMBERS AND GREAT VESSELS

(C. M. Fish, Atlantic City, in JI. Med. Soc. of New Jersey, Nov.)

The bell of the stethoscope is placed just below the tip of the xiphoid and to the right. Then, beginning on the lower thoracic wall and percussing gently from the sides toward the sternum a definite increase in volume of sound is heard when the percussing finger reaches a point over the inferior vena cava. The course of this vessel can be followed to a point beneath the right border of the sternum at the third interspace, at which point the vena cava enters the right auricle.

Then, substituting a piece of $\frac{1}{4}$ in. rubber tubing for the bell of the stethoscope, and placing the tubing at the right border of the sternum at the third interspace it is possible to percuss out 2 areas which correspond to the right auricle and right ventricle. Owing to greater depth of the ventricle, it is necessary to use a somewhat heavier stroke when percussing its borders.

The tubing is moved to the third interspace just to the left of the sternum. To outline the left auricle and ventricle heavier percussion stroke is necessary in outlining these deeper structures.

Without changing the point of contact for the stethoscope, but using the bell instead of the tubing, the ascending, transverse and descending rami of the arch of the aorta may be outlined. If the stethoscope bell is then placed below the xiphoid and just to the left, the descending aorta may be traced from below upward; and this is found to coincide accurately with the descending limb of the arch as previously determined. The outer borders of the heart can be outlined by the same technic. The cardiac chambers previously outlined are found to lie within these borders.

There is bound to be a certain amount of distortion caused by differences in structure of tissues lying between the bell of the stethoscope and the structure which is being outlined. A deeper structure will give a larger outline by both auscultatory and mediate percussion than a structure of equal size which is more superficially situated. However, inasmuch as the findings have not only been constant, but have been repeatedly checked by post-mortem and x-ray pictures, I feel certain that a definite ratio can be established between the size and contour of underlying structures and their surface outlines, as obtained by auscultatory percussion.

RACIAL SUSCEPTIBILITY TO TUBERCULOSIS

(Emil Bogen, Olive View, Calif., Amer. Rev. of Tuberculosis, Nov.)

It appears from this study that the greatest discrepancy between the death-rates from tuberculosis

in patients of different nationalities arises from the fact that some groups are admitted early in the disease, and others late, and bears little relationship to any innate difference in their reaction to the infection after it has reached a certain stage.

Why Times Are Hard

Letter published in the Adair County Gleaner, Stilwell, Oklahoma:

Dear Editor—There seems to be so much talk about our so-called *Republican prosperity*, I believe 'tis my duty to write my views on same and help to analyze the situation as far as possible so's we can make up our minds that we had auto change our ways of living and so-forth.

I see my mistakes and many others have acted likewise. I bought a Ford instead of a farm, and it is worn-out, but the farm is O. K. I invested in a radio instead of another cow, and the radio gives static instead of milk.

I am feeding five hounds which answers to the names of Ked, Red, Wing, Slobber, Jake, Byrum, stead of five pigs. I had my piano tuned, instead of the well cleaned out. I spent all my cash in 1928, using my credit in 1929, traded my future wages in 1930, so hard times caught me in bad shape last fall.

If I had spent my last \$10 for flour and meat instead of gas and oil I would have been O. K. I built a nice garage last year instead of covering my barn, and I loafed in a mountain two weeks instead of being in my pasture fixing so's my cow won't get out, but she is dry now and mortgaged to boot for two blankets my wife bought from an agent instead of paying the preacher.

I am on a cash basis now but ain't got no cash. I am tied to the end of my rope and the man I am working for is busted on account of nobody won't sell because nobody won't buy no cotton clothes. All the gals wear slick silky stockings and silk underclothes, right here in our cotton patches. I had \$4 saved up for a rainy day, but it turned dry and I spent the \$4 for two inner tubes.

I tried hard to make both ends meet with a turnip patch, but when I got ready to sell everybody was giving them away. I am worried plumb to the bone and my wife's kinfolks are coming over next Tuesday to spend two weeks.

Write or phone if you hear of any relief from the Government coming down my way. I am willing to be a Democrat or Republican for a few weeks if that will help out any.

All medical education is now directed toward a more comprehensive training of the general practitioner. A particular need is the education of the public for a better appreciation of the services of the family physician and that only in exceptional cases is a specialist required. Group practice is still to be regarded as an experiment.—DR. RAY LYMAN WILBUR.

Matters of Concern to Doctors Generally

A Column Conducted By
THE STAFF OF THE DAVIS HOSPITAL
Statesville, N. C.

GOITER

Diagnosis

JAMES W. DAVIS, M.D., F.A.C.S.

The three principal types of goiter which require surgical treatment are:

1. Goiter with toxic symptoms. This is the type with rapid pulse, nervousness, tremor, slight thyroid enlargement with or without exophthalmos. The metabolic rate is usually considerably increased.

2. The simple colloid goiter with enlargement of the gland and possibly pressure symptoms, but usually no toxic symptoms.

3. A type often overlooked and which causes so many distressing symptoms, an adenomatous goiter with a normal or subnormal metabolic rate, often pressure symptoms, slight choking sensation and may be recurring hoarseness.

Such patients often have mild cardiac disturbance, irregular nervousness and various vague symptoms which we are often at a loss to account for. The metabolic rate may be considerably below normal, but there are certain more or less characteristic general symptoms.

A careful palpation of the neck will often reveal only a slight enlargement or tumors of the thyroid, often only a very slight nodule. A superficial examination may fail to disclose any trouble, but careful palpation will show a nodular growth, more apparent on swallowing.

A patient recently operated upon had a basal metabolic rate of minus 15, a sensation of pressure in the throat and occasional slight difficulty in swallowing, a mild cardiac disturbance not exactly classifiable. She said "I just don't feel well." A rigid general examination failed to disclose any other trouble and a diagnosis of adenomatous goiter with atypical symptoms was made. Thyroidectomy was advised.

At operation an adenoma of the lower pole of the left lobe of the thyroid gland was found projecting downward, backward and inward, causing pressure symptoms and doubtless there was also some toxic secretion which produced a general body disturbance

but did not produce the classical hyperthyroid symptoms.

A thyroidectomy upon this patient gave relief as it has in many other instances. The patient states that the choking sensation is gone, the nervousness has practically disappeared and she feels well for the first time in years.

The effect upon the basal metabolic rate after a thyroidectomy in a case of this kind would naturally lead one to suppose that the rate would be still further decreased. This, however, is not the case. A number of careful studies have been made over a period of years of this type of goiter after thyroidectomy, and there is usually no further decrease in the metabolic rate—often actually an increase.

A careful study of every patient with obscure symptoms will often disclose a thyroid condition of this kind for which operation will give relief.

It must be remembered that a thyroid gland, especially the adenomatous type, may have a disordered secretion which may cause considerable general disturbance and still not cause an increase in the basal metabolic rate and the other symptoms of hyperthyroidism.

Ocular Findings

In the Exophthalmic Type

DAVID S. ASBILL, M.D.

The ocular findings in exophthalmic goiter are often so striking as to be observable by direct inspection with the unaided eye. These findings, one or more of which are present in the vast majority of cases, are:

1. von Graefe's sign—failure of the upper lid to follow the eyeball on looking down—is present in about 45 per cent. of cases. This sign is occasionally met with in conditions other than hyperthyroidism.

2. Dalrymple's sign—retraction of the upper lid, producing a staring, frightened expression—is an early sign present in about 85 per cent. of cases.

3. Stellwag's sign—infrequent or incomplete blinking—may be associated with conjunctivitis, ulcer of the cornea, corneal opacities and diminished sensitiveness of the cornea.

4. Exophthalmos: This is present in about 75 per cent. of cases and is most common and severe in young women and girl subjects, is for a while, at least, unilateral in about 15

per cent. of cases, usually comes on gradually, but in the order of ascending rarity may appear in a few weeks, days, or hours.

5. At times defective ocular movements, diplopia and other symptoms dependent on paralysis or paresis of the extraocular muscles. The external rectus is the muscle most often involved. Never is there paralysis of the intraocular muscles. Lacrimation is often noted, loss of eyelashes and eyebrows rarely.

6. Möbius' sign—difficulty in convergence on near objects—is quite independent of muscular paralysis.

Ocular signs are to be found mainly in the exophthalmic type of goiter, whereas rhinolaryngological signs are not often in either hyper- or hypothyroid cases.

Rhinological symptoms—sneezing, rhinorrhea and nasal obstruction; laryngological—choking sensation, loss of voice, hoarseness, pharyngeal and laryngeal neuroses; and respiratory symptoms—dyspnea or suffocative feelings may first lead goiter patients to the nose and throat man. Lump sensation, sense of fullness in the throat and reflex disturbances of the voice and swallowing may occur from hypertrophied lingual tonsils, which should be looked for with the laryngeal mirror when the vocal cords are examined.

Examination for vocal cord paralysis is always made here before and after thyroidec-tomy. A perforated ear drum may cause the recording of an erroneous metabolic rate, unless the external auditory canal on the side or sides of such perforation is closed airtight.

X-ray

C. W. ASHBURN, M.D.

In both diagnosis and treatment x-ray is of great importance, particularly in the substernal extension of the gland. X-ray examination, if only by means of the fluoroscope, should be done in all cases. Extension into the superior mediastinum can be accurately determined only by x-ray examination; the shadow being characteristically triangular (base upward) bilateral and symmetrical. Often a direct continuation into the neck bulge can be seen. The margins are definite, the trachea often displaced. In the entirely substernal cases the x-ray finds its greatest usefulness.

A differential diagnosis between substernal

goiter, aneurysm, thymus, enlarged glands, tumors and malignant neoplasms can be easily made by the anatomical variations in structure.

In therapy the x-ray acts by inhibiting and depressing the growth and function of the cells. Thus, it can readily be seen, the maximum benefit will be had in those cases of goiter with decided toxic effects—exophthalmic goiter and toxic adenoma. In these the activity of the gland is lessened with consequent decrease of toxicity. About 60 per cent. of these are cured; an additional 20 per cent. show distinct benefit. In substernal goiter, where there is difficulty of surgical removal, x-ray is the therapy of choice.

Unfortunately, the x-ray does not reduce the size of the gland; therefore, its use is not to be recommended in cases of gross and disfiguring enlargement and those with pressure symptoms. It is definitely indicated in elderly persons and in those individuals in whom the disease has progressed to the point that they are poor surgical risks.

Metabolism Tests

J. F. SIMPSON, LAB. TECHNICIAN

The old method of collecting the patient's expired air in a spirometer, then determining the O₂ and CO₂ with a Haldane gas-analysis apparatus was so subject to technical errors that reliable results could only be expected from an expert. Today, with the kymograph machine and simplified reference tables, accurate tests may be made after a little study and practice.

Numerous conditions may affect the metabolic rate, oftenest causing a false high rate. Most common of these are restlessness, fear of the test, fever, acidosis, severe anemia, drugs including gland products, abnormal function of pituitary or adrenals. A punctured ear drum may permit a leak. In cases of doubt repeated tests should be done and the lowest rate accepted.

Metabolism tests are a most valuable aid to diagnosis of hyperthyroidism, adenoma with hyperthyroidism and exophthalmic goiter, hypothyroidism, myxedema and cretinism. In adenoma without hyperthyroidism, the rate may be normal or decreased.

The metabolism test offers the best check on the results of surgery, x-ray or gland therapy.

Treatment, Pre- and Postoperative

LLOYD R. SHAW, M.D.

Pre- and postoperative treatment of the patient are of as vital importance as the operation itself. Before Plummer discovered the value of iodine in the treatment of thyroid diseases, these operations were highly dangerous and often unsuccessful.

The preoperative treatment depends entirely upon the type of goiter; (1) those with and (2) those without, toxic symptoms. In those patients having toxic symptoms, Lugol's solution is of value; in non-toxic cases its administration does no good. The purpose is to remove all the toxic secretion of the gland and build up the general body functions, increase the weight, improve the circulation and protect the kidneys. The detoxication is taken care of by the Lugol's solution while an attempt is made to increase the weight by means of a high carbohydrate diet. Digitalis is sometimes given to support the circulation. For the benefit of the kidneys the protein in the diet is restricted.

Following thyroidectomy, the treatment for the next two days is of vital importance. It consists principally in the administration of Lugol's solution freely and in giving plenty of fluids. Morphine also is used freely to keep the patient comfortable.

The preoperative treatment of toxic goiter should, in extreme cases, be carried out in a hospital where the patient will be seen several times daily by a doctor and be under the constant care of a nurse. The majority of cases may be treated at home and in this way the patient can be saved considerable expense.

In starting the preoperative treatment of a hyperthyroid patient in the home, the patient and the family must be made to understand exactly what is necessary. The routine treatment which we have found satisfactory is:

1. Absolute rest in bed in a quiet comfortable room.

2. Few or no visitors.

3. A liberal diet low in protein, plenty of fluids, orange juice daily if the patient can take it.

4. Lugol's solution by mouth and in extreme cases by rectum, the dose varied according to the patient; 10 to 15 minims three times daily by mouth is as much as can be taken without gastric disturbance. It may be given in ice-cold rich milk. Many patients

can take it in this way without any disturbance of the stomach and this should be tried on all patients who complain of gastric irritation.

5. Sedatives if necessary.

6. The patient must be in a good frame of mind and thoroughly satisfied as to the outcome. The doctor and the family by coöperating can do much to help out toward this end.

7. Digitalis where there is a definite heart condition indicating its need, but not otherwise. Digitalis has little or no effect on the tachycardia of hyperthyroidism.

Postoperative treatment consists in absolute quiet, morphine freely, Lugol's solution by mouth and by rectum if necessary and large quantities of fluids.

This method of preoperative and postoperative treatment has reduced the mortality in thyroid surgery to almost nil.

CARDIAC FAILURE OF THE CONGESTIVE TYPE

(C. E. Teeter, Newark, in Jt. Med. Soc. of New Jersey, Nov.)

Little digitalis is necessary in ambulatory cases of fibrillation to maintain a slow rate and an efficient circulation, often as little as 1 to 2 gr. of the powdered leaves a day kept up for years. In most cases the need is not urgent and the heart can usually be brought under control with moderate doses of digitalis.

Of the diuretic drugs, in my hands the theobromine preparations are most effective. Theobromine sodium salicylate, 10 to 15 gr. 3 or 4 times a day, is usually most satisfactory. The mercurials, novasurol and salyrgan are most powerful diuretics and are often effective when other measures fail; however, they belong to the list of therapeutic clubs occasionally necessary but not to be used until simpler measures have failed. I have seen at least 3 serious results follow their use. One of salivation and severe colitis followed the injection of 1 c.c. novasurol; another of severe mercurial nephritis, with albumin, blood and casts in the urine; and a third with complete suppression after 1 injection. It is the custom when using these mercurials, to precede administration by a course of ammonium chloride 10 gr. 3 times a day for 4 or 5 days.

I do not believe patients with congestive failure can be successfully treated while on their feet, in a chair, or going to the bath room. It has been my plan to insist on *absolute bed rest*, until edema has entirely disappeared and the condition of the heart improved. This usually means 4 to 6 weeks in bed, after which the rest must be partial, and the activity gradually increased.

Southern Medicine and Surgery

OFFICIAL ORGAN OF
TRI-STATE MEDICAL ASSOCIATION OF THE
CAROLINAS AND VIRGINIA
MEDICAL SOCIETY OF THE STATE OF
NORTH CAROLINA

JAMES M. NORTHINGTON, M.D., *Editor*

Department Editors

HUMAN BEHAVIOR

JAMES K. HALL, M.D. Richmond, Va.

PEDIATRICS

F. H. RICHARDSON, M.D. Black Mountain, N. C.

G. W. KUTSCHER, JR., M.D. Asheville, N. C.

E. K. McLEAN, M.D. Charlotte, N. C.

DENTISTRY

W. M. ROBESY, D.D.S. Charlotte, N. C.

EYE, EAR, NOSE AND THROAT

EYE, EAR AND THROAT HOSPITAL GROUP
Charlotte, N. C.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D. Gastonia, N. C.

UROLOGY

HAMILTON W. MCKAY, M.D. Charlotte, N. C.

ROBERT W. MCKAY, M.D. Charlotte, N. C.

DERMATOLOGY

JOSEPH A. ELLIOTT, M.D. Charlotte, N. C.

INTERNAL MEDICINE

PAUL H. RINGER, M.D. Asheville, N. C.

SURGERY

GEO. H. BUNCH, M.D. Columbia, S. C.

THERAPEUTICS

FREDERICK R. TAYLOR, M.D. High Point, N. C.

OBSTETRICS

HENRY J. LANGSTON, M.D. Danville, Va.

GYNECOLOGY

CHAS. R. ROBINS, M.D. Richmond, Va.

NEUROLOGY

OLIN B. CHAMBERLAIN, M.D. Charleston, S. C.

PUBLIC HEALTH

GEO. M. COOPER, M.D. Raleigh, N. C.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D. Winston-Salem, N. C.

HOSPITALS

MERCER C. PARROTT, M.D. Kinston, N. C.

RADIOLOGY

DEWITT KLUTIZ, M.D. Washington, N. C.

CLINICAL CHEMISTRY & MICROSCOPY

D. R. MURCHISON, M.D. Wilmington, N. C.

C. C. CARPENTER, M.D. Wake Forest, N. C.

NURSING

HETTIE REINHARDT, R.N. Winston-Salem, N. C.

WOMAN'S AUXILIARY

MRS. P. P. McCAIN Sanatorium, N. C.

Offerings for the pages of this journal are requested and given careful consideration in each case. Manuscripts not found suitable for our uses will not be returned unless author encloses postage.

This journal having no Department of Engraving, all costs of cuts, etc., for illustrating an article must be borne by the author.

THE SITUATION AND THE OUTLOOK

So far as we know, some good comes out of every ill. Hard times teach the folly of listening to the pollyanna, the promoter, the organizer, the installment salesman, and the false philosopher who sneered at thrift.

In times such as these people fall roughly into three groups; 1, those still simple enough to regard conditions of five years ago as normal, and look for their return; 2, those who sit down, put ashes on their heads and wail because society has ceased to put money into their pockets; and 3, those who look old Hard Times squarely in the eye and tell him that, tough fellow though he is, he can be beaten.

We were men before we were doctors, and we should still be enough of men to take stock of our own situations, and, if we are not making a living, summon up enough resolution to live on what we make. Few arguments are more pathetically puerile than that a high standard of living involves the expenditure of much money. Thoreau lived on Walden Pond for a year at a total cost of \$24.00, and maintained a standard of living far higher than did any millionaire in Boston.

Along with other intelligent citizens, doctors have only to save every cent reasonably possible, wave "the Joneses" a pleasant greeting as they ride by in their new car on their way to humiliation and bankruptcy, and apply ourselves cheerfully and energetically to our daily work.

Doctors have, in addition, special problems of our own. No other large group is being so wantonly, so unjustly and so bitterly assailed. But the worst of that is over. We have only to keep our defenses in order, give the foe battle on every front, accept no leadership but that of doctors earning their livelihoods in fees from private patients and allow none others to speak for us—and we have no need to fear but that our grandchildren will bear much the same relationship to their patients and their doctors as do the people of today.

A cheerful, satisfying Christmas to you all.

DOCTORS AND RAILROADS

Our observation is that railroads have an excellent record for fairness and justice in their dealings with doctors; indeed we believe this is true of their dealings in general in the past quarter century. One of the earliest

statements we recall hearing our father make was that if individuals would deal as honestly with him as railroads did he would be entirely content.

The railroads need friends to stand up for them and we know of no group in a better position to realize the need or to render the service.

We suggest that you ascertain how much in taxes the railroads pay in your county, how many cents in every dollar paid for school maintenance comes from railroads; also, how many cents out of every dollar paid as insurance premiums are invested in railroad stocks and bonds. Then consider that railroads can not continue to pay taxes unless they can be run at a profit and that when you come to die you will want to feel sure that your life insurance will be paid.

Consider further the damage done by trucks and buses to the roads, and that these vehicles rob automobile trips of practically all pleasure, contemplated or realized, and add tremendously to the dangers. A reliable representative of one of the largest road-building companies is our authority that trucks and buses destroy roads out of all proportion to the amount that comes into the State treasury from their licenses and tax on the gasoline they burn. Doctors have to use the roads more than almost any others and in all weathers, and they have a special concern that the hazards of the highways be reduced to a minimum and that the highways be not prematurely destroyed.

A large proportion of doctors are employed by railroads as surgeons and are paid cheerfully in transportation and cash for services rendered. From what source will doctors obtain this item of revenue if the railroads are forced to the wall?

About responsibility. Some three years ago a loaded truck with trailer crashed through a bridge into the Roanoke river. At each end of the bridge was a sign at least four feet square on which the capacity of the bridge was stated as less than the weight of the truck, alone. Who paid for replacing the bridge? The public. The truck people even threatened to sue. Does anybody doubt that a railroad would have paid any claim of half the merit?

Railroads pay well for their rights-of-way, build and maintain roadbeds at their own expense and run their trains on them; they pay

a large part of our taxes; they represent heavy investments of the funds from which life insurance policies must be paid (if at all); they perform a great many services for which trucks and buses are entirely inadequate.

It is morally wrong and economically crazy for the public (you and me) to build and maintain a roadbed to provide trucks and buses with the means of stifling a legitimate business, which provides a necessity at a reasonable rate, is the dependence for a large part of our taxes and life insurance, and which has always been one of the most liberal supporters of doctors. What are we going to do when the railroads are out of business and the trucks and buses have made such a wreck of the highways that the trucks and buses can't travel them, themselves?

On this reasoning we rest the contention that doctors should energetically espouse the cause of the railroads.

JUST LIKE POPPA

When Roosevelt put Hiram Johnson forward to feel out the sentiment for a third political party, a clever cartoonist pictured the event by drawing Hiram as a miniature Teddy, and the mighty one, himself, as admonishing, "Remember now, just like poppa."

According to the *Raleigh Times* (Sept. 29th):

"Industrial Commissioner Dewey Dorsett this week was confronted with a case in Lillington in which the bill of particulars was similar to the one which resulted in Dr. R. B. Hayes, of Hillsboro, serving ten days in Orange county jail at the instance of Chairman Matt Allen for contempt of court. But the outcome in this instance was different.

The case was that of Nathan Layton against the Thomascon, Bartholomew Company and the United States Casualty Company, the same insurance company involved in the Hayes case and represented by the same attorney, Ralph V. Kidd, of Charlotte.

Mr. Kidd presented Dr. Charles Highsmith and another white physician from Dunn, both of whom, like Dr. Hayes, refused to testify until assured that they would be allowed expert fees. Commissioner Dorsett, however, accepted the testimony of a negro physician and awarded full compensation to Layton.

The \$18 fee allowed the negro doctor, it proved, would more than have satisfied the white physicians, who received no compensation for their trip from Dunn."

We wrote Dr. Highsmith requesting information as to just what happened. His reply

(Oct. 27th):

"I was called to see Nathan Layton on July 1st, 1931, and found him suffering from an orchitis, which he said was due to a fall while working for a construction company. He called at my office two days later, and, of course, was still suffering. I did not see him any more until August 17th, when he called at my office and stated that he had been treated by Dr. Codrington, a colored physician, from the time I first saw him until then. I found him wearing a truss, and that he had been suffering with infected inguinal glands which had broken down and had been opened and drained. I did not see that he needed at the time further treatment, and gave none. He and his attorney claim that he had a hernia as a result of the fall. As I was not so requested, I made no examination at the time to ascertain whether he had a hernia.

Later I was called as a witness to testify before a member of the Industrial Commission, which had under consideration the question as to whether the patient's trouble was caused by an accident. I testified as a witness before the Commissioner, giving in substance as my testimony the facts above stated. At this hearing Dr. C. L. Corbett, 'the white physician from Dunn' and I were called on to examine the patient to ascertain if he really had a hernia. When Dr. Corbett came, I remarked to him that we be sworn in as expert witnesses, and he made this suggestion to the Commissioner hearing the case. Whereupon, the Commissioner stated that it mattered not how long a string of oaths we took that we would not receive one penny more, and that it was useless that we be sworn as experts, but he did not tell us what we would receive, or that we would receive anything for the examination and testimony based upon the same; that if we did not want to examine and testify that he would send the man to Raleigh and have a certain named physician to examine him. Whereupon, I replied that it would be satisfactory for him to send him to Raleigh, and the Commissioner, with the attorneys and the representative of the insurance company, left the courtroom, and then the Commissioner informed me what medical fees would have been available had we made the examination and given the testimony that he wanted. This was not told us until after the court had really adjourned.

After they had all left the courtroom, and had gotten in their cars preparatory to go to Raleigh, Dr. Codrington, the colored physician from Dunn, drove up, and the attorney for Mr. Layton went to them and asked them to return to the courtroom and continue the hearing. Dr. Corbett and I did not return to the courtroom, nor were we asked to do so, and I cannot state of my own knowledge what occurred, but I understand that Layton was examined by Dr. Codrington in the presence of the Commissioner, and that he gave testimony relative

to the same, giving as his opinion that it was a hernia.

If you desire any further information in respect to this matter, I will be glad to give it to you if in my power to do so."

As Mr. Commissioner Dorsett was soon to be in Charlotte for a public meeting, and as we think it always proper to hear the other side, this meeting was waited for. We were able to see Mr. Commissioner Wilson, who undertook the delivery of the papers to his colleague, and said "we will call you by 'phone." No call came, but after a week had passed, we received the following message over the signature of Mr. Commissioner Dorsett:

"I have carefully read Dr. Highsmith's letter to you and the doctor has stuck pretty well to the facts and I see nothing that I can add to what he has said. I certainly do not desire to get into any argument with doctors over anything if I can steer clear of such argument and for that reason I have no statement whatever to make about this case at all. I have made no statement to anybody about it. The newspapers got the information from some source in Dunn and I have steadfastly refused to talk about the situation at all. It is a matter that I handled as best I could and a matter that was handled with all parties being absolutely in a good frame of mind and in a good humor. That is about all I can say about it. I am returning to you the file that you gave Commissioner Wilson."

Dr. Highsmith says it is about 18 miles from his office to Lillington, the case took nearly a whole day of his time, and he has received nothing for it.

Read Dr. Highsmith's letter again, and Mr. Commissioner Dorsett's admission that he states the case accurately, and see a perfect illustration of Czarism—the late (but not lamented) Czarism. Do what it pleases Us to tell you to do. Remuneration? That, also, is as suits Our pleasure. "Just like Poppa" Allen! And, Mr. Commissioner Dorsett says, all the parties were in good humor!

So it seems to boil down to this: Doctors compelled to appear before Messieurs, The Commissioners, have their choice of two courses, (1) demur and go to jail, (2) don't demur and have it argued by a Mr. Commissioner that your failure to demur proves you were fairly treated!

Some time ago the behavior of a Federal judge holding court at Charlotte was such as to cause a plain Citizen to remind that judges

hold office during good behavior, and to inquire, "What is good behavior in a judge?"

DOCTORS, ASK CANDIDATES HOW THEY STAND

In North Carolina there are about 2,500 licensed physicians. We do not know how many chiropractors there are in the State; but, in Charlotte, the ratio is something less than 1 chiropractor to 30 doctors of medicine, and the cults favor the bright lights.

Doctors of medicine have the first chance to influence those who are to pass our laws; we preside at their births. With few exceptions, we see after their health and the health of their families. On our side are all the demonstrable facts of preventive and curative medicine. Our State Board of Health, supported by taxation, is run on the principles of regular medicine. Our University's excellent Medical School, also supported by taxation, teaches regular medicine.

Is it not, then, astounding and humiliating that a cult can exercise more influence on our General Assembly than can doctors of medicine?; that, when we are in a majority of more than 30 to 1, and have all these aids, our opinion and our wishes are paid so little attention by office holders and office seekers?

The explanation is plain. Every cult habitually votes as a unit. We do not. They are constantly mobilized to protect and advance their interests. We adopt an attitude of "let George do it", or "what's the use"?

Every doctor of medicine in the State owes it to the people, owes it to the doctors of tomorrow, owes it to his family and himself, to require of every candidate for every State office that he say in plain words where he stands on subjects vitally affecting doctors' interests.

This journal is putting this plan into effect, but it can not do much without the active cooperation of the doctors over the State.

The doctors of the State can elect a majority of the next General Assembly and all other officials up to and including a Governor, if we only *will*.

Find out what your county's Representative and Senator are for, and when you find one so prejudiced, so blind, or so timid, as to refuse to come out plainly and unmistakably on the side of regular medicine—just go out and defeat him.

WHY NOT ENLIST THE AID OF THE NEWSPAPERS?

In October we noticed in one of our best county papers an osteopath's advertisement which denounced and held up to ridicule the use of animal products for disease prevention or cure. Feeling that the manager of the paper did not realize the danger of such misinformation put out by one called "doctor," we wrote earnestly pointing out that as a result of such advertising a number of children would certainly lose their lives, unnecessarily, from refusal of parents to allow their children to be treated with products such as diphtheria antitoxin, anti-tetanic serum and antirabic injections:

Soon came the reply:

"Your favor of 13th calling attention to advertisement is appreciated. You are right and I'm glad you called it to my attention. I shall have all advertisements from similar sources submitted to me hereafter before being inserted."

The foregoing experience we regard as one of vast importance, for it indicates that most newspaper men will work with us in the cause of truth about health matters, if we will take the interest to explain these matters to them and show them the evidence.

What stands in the way of the State Board of Health and the State Medical Society, the County and City Health Officers and the County Medical Societies, working together, inducing every paper in North Carolina to propagate the health- and life-saving facts with which we can supply them; and denying the use of their pages to all who, through ignorance or greed, seek to influence parents to refuse to let their helpless children the succor proffered by progressive medicine?

MORE ABOUT MARIAHUANA

In the October issue we warned that the smoking of marihuana (also spelled *marijuana*) had become a serious problem in New Orleans and several other cities of the U. S., and quoted at length on its terrible effects.

In reply to an inquiry, Dr. Geo. F. Roeling, coroner of the Parish of New Orleans, has written us that the use of the drug seems to be increasing, "so much so that the very persons within the jails seem to have very little difficulty in getting access to it." In the October issue we quoted Dr. Roeling as saying "One out of every four persons arrested

in this city (N. O.) is addicted to marijuana.

A United Press article from Cincinnati, October 26th:

Cincinnati officials will pass a special ordinance against "muggles," cigarettes treated with marijuana, which, they said, were gaining wide-spread use here among circles of young people.

Federal law does not prohibit sale of the weed, which brings an intoxicated sense of exhilaration. Marijuana has had wide use in Mexico.

Lexy Ford, federal narcotic agent here, reported parties of young people sit on the floor in "Marijuana trains," passing the smokes from mouth to mouth. The "train," he said, usually ends in an orgy.

New Orleans to the south, Philadelphia and New York to the north, Cincinnati to the west of us report serious addition of children to this drug which is so potent a cause of crimes of violence as to have originated the word, *assassin*. The Atlantic deters to the east.

Who can doubt that we will soon have this addiction to contend with? Even that it is already among us, unrecognized or unreported? Are we doing anything about it?

NEW DEPARTMENT EDITORS

Since September the Department of Radiology has been conducted by Dr. DeWitt Kluttz. A doctor who was asked to fill another department editorship objected that his work was not exclusively in that specialty. We replied that there was much to be said for having departments conducted by men who retained an active connection with general medicine. The validity of this line of reasoning is attested by the results.

Over a number of years endeavor has been made to interest the nurses in the journal and to convince them that the causes of the nurse and the doctor were the same, both constantly supported by this journal. The present president of the State Nursing Association has taken vigorous hold on this idea and is energetically working at it. The cause of the Woman's Auxiliary has an able exponent in Mrs. P. P. McCain.

With this issue Dr. D. R. Murchison, Wilmington, and Dr. C. C. Carpenter, Wake Forest, take on the conduct of a Department of Clinical Chemistry and Microscopy. A happy arrangement it is—a team made up of a doctor who uses his laboratory as habitually

as his thermometer, and a teacher and consultant in pathology. The journal is glad to be able to present such a Christmas present to its readers.

We all change, but that's with time; Time does his work honestly, and I don't mind him. Use him well, and he's a hearty fellow, and scorns to have you at a disadvantage. But Care and Suffering are devils, sir—secret, stealthy, undermining devils—who tread down the brightest flowers in Eden, and do more havoc in a month than Time does in a year.—MR. VARDEN, in Dickens' *Barnaby Rudge*.

CANCER DANGER SIGNALS: 1. Any lump in the breast or other part of the body, especially one which begins to grow or change; 2. Any sore which does not heal, particularly on the face or in the mouth; 3. Any unusual discharge or bleeding from any part of the body. *Pain is a late symptom. If you have suspicious symptoms secure competent medical advice without delay. Many cancers can be cured by early treatment.*

—American Society for the Control of Cancer.

THE AVERAGE EUROPEAN is willing to take his labor as he does his liquor—in moderation. The bulk of America's rich men never lose the itch to become richer. Our span of life has not been increased. Causative factors are: rest is an almost unknown factor in American life; overeating is almost universal with us; indulgence in impure alcoholics and excesses of the boudoir show a shameful percentage.—Ed., *Illinois Med. J.*, Nov.

INTRAMUSCULAR INJECTION OF AN ALCOHOLIC SUSPENSION OF A PATIENT'S OWN SCALES, advocated by same has proven of no value in 8 cases of PSORIASIS, so treated by Stillans and Lawless, Chicago. (*Arch. Derm. & Syph.*, Nov.)

THINK OF DIABETES if: 1. healing is slow, 2. if there are boils, 3. if there is complaint of cramps, 4. if the appetite is excessive, 5. if the patient is fat, 6. if the sight is poor—in fact, it does no harm to think of it in any case.

The growing tumult of uniform civilization.—*Renan*.

DEPARTMENTS

THERAPEUTICS

FREDERICK R. TAYLOR, M.D., *Editor*
High Point, N. C.

SOME ADVANCES IN THERAPEUTICS IN 1931

While there may have been no epoch-making discovery in therapeutics in 1931, a number of really valuable advances have been made. We propose to mention a few of these briefly.

Anthelmintics.—In the October number of *Southern Medicine & Surgery*, Dr. Paul Whitaker has written of his work on a new drug, macnin. No further comment is needed on this drug. We do not know of a more competent helminthologist in the State than Dr. Whitaker.

In this field a new application is being made of a previously known drug, hexylresorcinol. This work was begun in 1930 by Lamson and his associates, and continued in 1931. It has been recognized generally that nearly all of the effective vermifuges are toxic, and are highly so to susceptible persons and under certain special conditions. For example, santonin, the classic ascaris vermifuge, is a drug to which a considerable number of persons show an idiosyncrasy; and carbon tetrachloride, one of the best remedies for hookworm infestation, may be highly dangerous if roundworms are simultaneously present, a number of deaths having been reported, apparently due to pernicious activities on the part of the roundworms in their effort to get away from the drug, which does not kill, but irritates them. The discovery that hexylresorcinol in crystalline form is lethal to both the hookworm and the roundworm constitutes, we think, a distinct advance in therapeutics. The previous drugs used against the roundworm have usually expelled them alive, and have sometimes caused them to migrate into remote parts of the body where they cause severe symptoms. A drug that kills both the roundworm and the hookworm, and is non-toxic to the patient, such as crystalline hexylresorcinol, is therefore of definite value, and if extensive use shows it to be as effective as the older methods of treatment of both these conditions, we think it should supplant those

older methods. Hookworm ova are readily found; not so the ascaris ova. It is quite possible to make a diagnosis of hookworm disease and miss the simultaneous presence of ascariasis. Hence in such cases, the hexylresorcinol would be at once safer and more effective, as it would clear up both conditions at once without toxic effects.

Whooping-cough.—While it was known before 1931, the ether-oil treatment of whooping-cough has been further developed in the past year. We recently attended the meeting of the Virginia State Medical Society, and there was an interesting booth in the scientific exhibit showing excellent results from this treatment. The treatment advised was one dram of a mixture of equal parts of ether and olive oil, for each year of a child's age up to 12 years, twice daily if required to control paroxysms, the drug being given by rectum. The results reported were superior to those of all other accepted treatments. The results of numerous control cases treated by the other methods were given for comparison.

Peptic Ulcer.—Emetabol, marketed under the name of synodal, the Pitkin intravenous treatment for peptic ulcer, seems to us peculiarly worthy of trial. If it proves in the long run to be as successful as its sponsors hope and believe it will, it will constitute a therapeutic discovery of the first rank.

Basal anesthetics, such as avertin and sodium amytal, are being used more and more in surgery and obstetrics, and they seem of great value.

We do not know just when it was first recognized, but this past year there has at least been a wider recognition of the value of *barbital* and its many derivatives as an antidote to, and prophylactic against, poisoning by cocaine and its congeners—probably the best antidote and prophylactic now in use. As an actual antidote, if there is time to use anything at all, in acute cocaine poisoning, a rapidly acting preparation such as *sodium amytal* intravenously is perhaps the best treatment we have to date.

The decrease in price of certain very expensive drugs is a real gain in therapeutics, though there seems to be room for improve-

ment with some preparations yet. *Pyridium* seems to be a fairly valuable addition to the list of urinary antiseptics, but it used to cost about 14c a tablet in bottles of 50, which made it prohibitive to many. The price has during the past year been materially reduced, but the drug is still rather costly.

Epidermophytosis.—The use of a 1:1000 solution of copper sulphate followed by a dressing of a mixture of agar and mineral oil has given us excellent results in eczematoid ringworm, and also in the ordinary trichophytosis. Cases resistant to many other forms of treatment, including x-ray, have cleared up rapidly under this treatment. Incidentally, the agar-mineral oil mixture is very soothing and gratifying in many painful and itching skin conditions.

Bronchiectasis.—Some recent work has been done, though we are not sure that it does not date back prior to 1931, to suggest that bronchiectasis is usually due to a Vincent's infection of the bronchi, and that neoarsphenamine intravenously is helpful in this very obstinate condition. We have had no personal experience with it beyond trying it on one patient who had had a clinical diagnosis of bronchiectasis confirmed by lipiodol-x-ray, but the patient had only two doses and did not return for further treatment, and we know nothing of the results.

Copper in the treatment of anemia is becoming more popular. What its final place will be we do not feel able to predict. Its protagonists believe it acts somewhat as a catalyst in augmenting the effect of iron in secondary anemias.

The Bransford Lewis *electric prostatic heater* is being advocated as of value in certain prostatic infections. It is to be regretted that certain proprietary instruments of a somewhat similar type are being advertised directly to the public under claims that lead them to be used more or less indiscriminately for all kinds of prostatic troubles, which may be very harmful, as it is not indicated in hypertrophy, and contraindicated in malignancy of the prostate.

Theelin seems to be a perfected ovarian extract, or, rather, active principle of ovarian extract in pure form, somewhat analagous to thyroxin as the active principle of thyroid extract.

What the status of the much discussed *pituitary extract* being advocated for baldness will be, we do not know. Our knowledge of it was only through the newspapers until recently, but Dr. MacNider told us the other day that he had seen some reports of it that looked pretty good.

A *new adrenal preparation* seems to give some hope for the victims of Addison's disease, though it may be too soon to draw definite conclusions regarding it.

Neurology.—The work of Dr. Temple Fay and his associates is receiving increasing recognition, and the value of fluid restriction in lessening intracranial pressure is being more and more demonstrated in many conditions, such as post-traumatic headaches, some cases of epilepsy, etc., as well as to give temporary relief in many cases of brain tumor, abscess, etc., and to get the patient in better condition for brain surgery.

There are *rumors of advances in psychiatry* in the line of certain drugs such as rhodanin, but we have no personal knowledge of this work and are unable to say whether it is of lasting value or not.

No doubt many other advances have been, and are being made, of which we have no knowledge, which may become more generally known later on, but these things must be left for a future time or a better informed editor to discuss.

A news story in a county paper tells of a **DISTRESSING DEATH FROM TETANUS**, the wound being inflicted by a nail, the point of entrance the foot. All your life you have known that if you stuck a nail in your foot you were liable to develop lockjaw. Now we know that tetanus antitoxin injected soon after the accident, will prevent such a death. We can not afford to neglect to protect our patients against this horrible disease.

The scrutiny of hundreds of manuscripts over a term of years makes us sure that at least nine of every ten of them could be vastly improved, as literature, by a critical redaction; and of these many stand in very serious need of such redaction.—*Kalends*.

Find me a man whose syntax is snarled and I'll show you a man whose thinking is also snarled. Lame English runs neck and neck with spavined logic.—*Mencken*.

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

SOME ADVANCES IN OBSTETRICS IN 1931

Advances have been made in prenatal, intranatal and postnatal care for the two or more million women who have had babies in the year now drawing to its close. Physicians and laity are becoming more and more vitally concerned in a positive way about the welfare of those who are to bear our children.

Obstetrics is approaching its proper position in the courses of training of young doctors. Medicine and surgery have occupied major positions for a good many years and obstetrics has had a minor place, although obstetrics is a major portion of the practice of the general practitioner, and if it were not for this work many physicians would not be able to make a living. The dawning of a new day in this important field is here and we feel very much encouraged.

PRENATAL CARE

Whatever impetus the White House Conference gives in stirring up physicians and the laity that every pregnant woman have the proper prenatal care, whether she be white, black, yellow or whatnot, is worth while. In the last few years a majority of deaths in childbirth and a majority of the stillbirths are preventable. It is possible for many of these pregnant women, with proper instructions, to go along in a normal way and be fed properly, with proper exercise and proper mental outlook, develop normal babies. We are proving daily that the more active, within moderation, these women are, the better off they are.

INTRANATAL CARE

Within the last few months many papers have been written by good men advocating more scientific care of mothers during the hours of labor. Certain drugs can be used to eliminate pains of childbirth without injury to mother or baby, and when the mother comes through the ordeal of labor she finds herself physically fit and she does not have to remember the horribleness of childbirth. We have become better able to intelligently assist the mother in having her baby when necessary, without doing so much injury to mother and baby. We have improved our technic; we are more careful in our operative

procedures; and we are trying to get mothers to have babies under cleaner conditions so as to prevent infections.

We have advanced in the care of the birth canal. It is possible to successfully repair any sort of tear of the cervix or vagina and for these tears to heal by first intention, if proper technic has been followed; and these mothers are saved from invalidism, morbidities, and subsequent gynecological operations.

The best method of treating septic infections is by blood transfusion. The various serums and chemical agents have not proved of such universal help and they will probably soon be discarded and transfusions will be resorted to. Also, our technic of transfusion has improved so that in cases of secondary anemia resulting from hemorrhage transfusions have reached a position where they will be a permanent help.

POSTNATAL CARE

We are finding that, with proper exercise, as few days as possible in bed and abundance of rest during the puerperium, these patients do better than if allowed to stay in bed nine to fourteen days and then get up and become too active. Also by observing and properly treating all tears following the intranatal period and using mercurochrome or similar antiseptics, these patients have more nearly normal lochia, proper involution, and the tears heal.

We hope that 1932 has many advances in the field of obstetrics and that every physician who is doing this type of work will endeavor to improve his work in such a manner that when he reaches 1933 he will look back over 1932 with much more satisfaction than he looks back over the present year.

A CASE OF HIRSUTIES GESTATIONIS

(C. E. Slocum, Defiance, Ohio, in *The Medical Record*, 1935)

Mrs. R. has borne three children at full term, and suffered one abortion at six or eight weeks. A peculiarity that has attended each gestation is the growth of beard on the sides of the face and under the chin. This hairy growth has uniformly started at the commencement of pregnancy, or become perceptible soon after the cessation of the menses, and continued until childbirth, and the uterus has assumed its antefecundated status. The hair's length at childbirth is one to one and a half inches. This hirsute condition during gestation is the only peculiarity in this lady's history. She has uniformly enjoyed health.

SURGERY

GEO. H. BUNCH, M.D., *Editor*, Columbia, S. C.

ADVANCES IN SURGERY IN 1931

Although nothing revolutionary has been noted during the year, advance in all branches of surgery has been substantial.

We agree with Mock (*J. A. M. A.*, Nov. 14) that far too many skull fractures have been operated upon in the past, and that there is gradually developing a far more common-sense, rational management of them. Treatment of shock is the first duty of the surgeon. The patient must be kept warm and at rest. Until reaction has taken place he should not be disturbed for physical examination or x-ray study. Dehydration methods have proved effective in many cases in controlling intracranial pressure from edema of the brain. Four ounces of a 50 per cent. solution of magnesium sulphate, given slowly as a retention enema repeated every four hours for the first two days as indicated, is the method of choice, although some for this purpose prefer giving into the vein a hypertonic solution of glucose or sodium chloride. The trend toward conservatism in the treatment of these cases is shown by the fact that from 1910 to 1920, when 49.7 per cent. of injured heads were decompressed, the gross death rate was 17 per cent higher than from 1920 to 1928 when only 24.2 per cent. were operated upon. In 1926, 27 and 28 10.8 per cent. were operated upon and in 1931 less than 10 per cent. of head injuries are operated upon.

Operative mortality in thyroid surgery is being reduced. Brenizer reports a series of 1482 cases of exophthalmic goiter with 10 deaths and 1018 cases of adenoma, thyroiditis and cysts with 2 deaths. We believe that operative mortality in exophthalmic goiter would be less if physicians realized that iodine is necessary in the preparation of the patient for operation. If the patient has been given iodine too long before coming for operation the drug is no longer therapeutically effective.

Heretofore the surgeon's chief interest in the parathyroids has been to leave them untraumatized in operations upon the thyroid for when they are injured or removed tetany develops. Now that parathyroidism has been recognized as a clinical entity the operative removal of the 2 inferior parathyroid glands is recommended for its relief. Bollin and Morse (*Annals of Surgery*, Oct.) report a

series of 15 parathyroidectomies with encouraging results. The symptoms of parathyroidism are those of demineralization with fragility of the bones, hypotonic muscles and high blood calcium content. The striking symptoms are those of the skeleton, general lack of lime with localized areas of rarefaction, causing bending of the long bones and curvature of the spine. The height of the patient is lessened as the neck is lowered and the shoulders come forward. The bones are painful and easily fractured. The diagnosis should be made early and operation done before deformity has developed.

The lamented Deaver in June, 1931 read a paper before the American Surgical Association stressing the wisdom of removing the anterior half of the pyloric sphincter in the treatment of peptic ulcer. Of the 35 patients on whom this has been done by him 26 have complete relief of symptoms and 5 are partially relieved. According to Deaver the clinical symptoms of ulcer can be explained on a basis of pylorospasm, dysfunction of the sphincter and hyperacidity cause ulcer, and by removing the sphincter duodenal regurgitation may take place and hyperacidity be overcome. It is physiologic for it restores nature's method of controlling acidity. On this principle, with excision of the ulcer, rests the virtue of the pyloroplasties of both Finney and Horsley.

As advocated by Royster we no longer believe in waiting for infection of the gall-bladder to become chronic before advising operation. Acute cholecystitis should be operated upon as soon as the diagnosis is made just as is acute appendicitis. When the condition of the patient warrants cholecystectomy is the operation of choice. If the gall-bladder is gangrenous and the patient very ill the posterior portion may be left attached to the liver after the rest has been removed and the cystic duct ligated. In our experience there is but little shock to the procedure and the ultimate result is the same as though all the gall-bladder had been removed.

In acute appendicitis all stress the great danger of giving laxatives. In this section of the country we feel sure that most physicians have learned the lesson not to purge these patients. The condition is recognized and operation advised earlier than ever before. The results are also better.

Multistage operation for cancer of the recto-sigmoid remains the procedure of choice. No great change in principle is practiced. Improved results come from earlier recognition of the lesion and the referring of the patient to a surgeon who has had sufficient operative experience in this field. Congenital megalocolon has been relieved by the removal of certain retroperitoneal sympathetic lymph nodes, and there is probability of some such operation being effective in the cure of cases of chronic atonic constipation.

Perhaps the greatest advance of the year in surgery is in anesthesia. Spinal anesthesia is being more generally used everywhere for surgery below the diaphragm. If given properly its advantages are too obvious to be long unrecognized. Luminal given before operation in toxic goiter patients is helpful in controlling nervousness even though it has to be supplemented by local anesthesia or gas-oxygen. We have had no experience with avertin.

WHAT IS BEST ANESTHESIA?

Arthur Dean Bevan, Chicago (*Journal A. M. A.*, Nov. 21, 1931), believes that the use of chloroform, of intraspinal anesthesia, of intravenous anesthesia, of intrarectal anesthesia, of intratracheal anesthesia and of the so-called basic anesthetics, such as scopolamine, avertin and amytal must be limited to very narrow fields. Fortunately, local anesthesia, gas anesthesia and ether afford three anesthetic measures which, if handled by an expert, can be used alone or in sequence, with abolition of pain and, if desired, the abolition of consciousness and, when required, complete relaxation, and can secure complete and safe anesthesia for any and all surgical operations. This places anesthesia on a very unpretentious, simple basis, but here, as in all fields of surgery, it finally becomes apparent that simplicity is near truth. The author believes that the general adoption of this simple scheme of anesthesia will prevent many anesthetic accidents and save many lives.

THE PRINCE OF BEGGARS

(*Canadian Med. Assn. J.*, Nov.)

By the late Lord Knutsford, Chairman of the London Hospital, begging was raised to a high artistic level. How else can one describe the work of a man who directly or indirectly begged over 30 million dollars for his hospitals.

Much of the keen wit of his famous ancestor Sydney Smith reappeared in him, and for his interest in medical affairs he could look to his grandfather, who was physician to Queen Victoria, and, incidentally, one of the greatest travelers of his day.

A firm replied to his appeal: "We appreciate the

honour you have done us to ask us to subscribe to the London Hospital, but our claims are heavy and we can not do so." To which he immediately answered: "You call it an honour to be asked! Surely an honour is worth paying for?" The firm then replied in verse, but Lord Knutsford countered with a poetic effort of his own, and then the firm sought refuge in silence. But before long they received the following bill:

"To reading a bad poem 0.10s. 6d.

To writing a worse one 0.10s. 6d.

1 Pound 1s.

Remittance will oblige." And then the subscription was forthcoming.

A lady wrote that she was sending him her bridge winnings of the previous evening. "They ought to have been more," she added, "but my partner revoked." Within an hour she received the prepaid telegram: "Thanks. Please send partner's name and address."

He noticed an advertisement by a Mr. Kennedy Jones on behalf of a man who badly needed employment, and he at once gave the man work himself. The employment consisted in his calling every day on Mr. Jones to ask for a hospital subscription!

EVERY DOCTOR SHOULD AND CAN CONTRIBUTE TO THE INCREASE OF MEDICAL KNOWLEDGE

(From an Address delivered in Chinese at the Commencement Exercises of the Peiping Union Medical College, June 10th, 1931, National Medical J. of China.)

It is said that modern scientific research is very expensive business, and it is impossible to carry on researches when one is not connected with well equipped institutions. Necessary laboratory equipment beyond the means of a private individual can be bought by doctors who group themselves into firms or corporations. Moreover, when a scientifically trained man is really interested in the solution of particular problems that trouble him, he will always be able to find ways and means.

As soon as a scientist feels no longer troubled by new problems, he becomes intellectually dead and grows no more. The necessary condition for keeping up the research habit, therefore, is never allow a difficult problem to slip by you. Let it puzzle you, perplex you, mock you and challenge you, and you will forego a grand theatre party, or sell your heir-loom or your wife's jewels to buy the necessary equipment for its solution. Or, failing in all that, then, by hook or by crook, get your passage ticket and travel five thousand miles to come back to your splendidly equipped Alma Mater which, I am sure, will give you every research facility and welcome you back as a son worthy of her scientific tradition.

PARALYSES must be differentiated as due to: 1. organic change; 2. hysteria; 3. mal-infering.

RADIOLOGY

DEWITT KLUTTZ, M.D., *Editor*, Washington, N. C.

ADVANCES IN RADIOLOGY

The study of the mucous membrane of the stomach and duodenum appears to be the most important forward step taken in roentgen diagnosis in recent months. Each issue of periodicals finds an increase in the description of various normal and abnormal conditions observed by this method, and it bids fair to soon become a standard procedure to be used as an adjunct to the usual heavy barium meal if further information is needed.

The basis of this method dates back to the proofs by Torssell that the mucosa of the stomach has its own musculature and is possessed of motility, mobility and contractility independent of the other parts. Rendich in 1923 described its condition in health and disease, and soon afterwards Holznech applied these facts to the roentgenological examination of the stomach. Little further application of the principles was made until less than two years ago when it was gradually taken up over different parts of the world. Knowledge of its possibilities and limitations spread, and now we find a simplified technique and more standard diagnostic criteria.

The contrast meal consists of a thin, watery suspension of barium which makes a light coat over the folds of mucosa causing the rugae to stand out in relief. These folds have a standard normal alignment in different parts of the viscus and variations point to the existence of pathology. Ideal conditions must be present and there are a number of easily produced circumstances that may derange the mucosa so that observations will be erroneous or useless. Gastric peristalsis or secretions, extragastric movements or pressure, variability of normal in different body types, the presence of air and spasm are some of the hazards that may be encountered.

The visibility of an ulcer niche on the posterior wall of the stomach or duodenum, or in a duodenum which lays behind a full stomach shadow is the most reliable and valuable finding that this technique produces. The convergence of the mucosal folds towards an ulcer verifies its presence, and less definite variations from the normal arrangement suggests ulcer or other pathology. False defects caused by serrated folds of the mucosa in the

full active stomach are said to be eliminated with the use of the thin suspension meal.

The diagnosis of chronic gastritis from changes in the relief picture is also reported and although this appears to be often indefinite it offers more for the future and should be of aid in diagnosing ulcers in their earliest stage. In Rivers' study of duodenitis, gastritis and gastrojejunitis, many cases with ulcer symptoms and some with hemorrhage were found at operation to have non-ulcerating inflammatory areas in the stomach or duodenum, excision of which gave relief. Roentgenological studies with the usual heavy meal had only showed hyperirritability. Examination of the serosa in some such cases reveals nothing and it is necessary to obtain proof of their presence. These lesions of gastritis and duodenitis are beginnings of peptic ulcers, and the possibility of determining their presence by roentgenological study of the mucosa is hopeful.

Weber furnished a new technical method of studying the colon which is of value in discovering polypi. These are always obscured by the barium enema. He has the patient empty the bowels of the barium and then distends the colon with air, bringing out the lesions in relief. Other uncertain conditions may also be clarified in this way.

A detailed study of the action of the nitrites and the derivatives of belladonna as gastro-intestinal antispasmodics was published by Beams in September. Summarizing he states: "From the standpoint of diagnosis in roentgen examinations, nitrites are more effectual than atropine as an antispasmodic in gastric and colonic spasm. Only in cardio-spasm and pyloric spasm did atropine equal the nitrite and neither was very effectual in these conditions." Differentiation between organic and spastic constrictions of these areas must be guarded.

The physiological principles of the action of the protein-emetine solution of Pitkin upon the splanchnic nerves is of importance to the roentgenologist. The relief of spasm of peptic ulcers, reduction of hypermotility and hyperacidity and the later disappearance of ulcers by this intravenous treatment appears to be well founded.

Gas in the colon is the commonest cause of liver dullness.

PEDIATRICS

GEORGE W. KUTSCHER, M.D., *Editor*, Asheville, N. C.

PEDIATRIC ADVANCES IN 1931

During the past five years three outstanding contributions to the treatment of anemias have been advanced: 1—liver therapy, and 2—desiccated hog's stomach, for pernicious anemia; 3—the addition of copper to iron therapy in secondary anemias.¹ As in many medical advances, the value of *copper* as a catalyst or promoter of iron in anemias, was the result of elimination. Iron in its highly purified state has never been of great value in anemias. When administered in its unpurified state it was discovered to possess more potency. Along with iron, the ash of lettuce, corn and beef liver was administered, and the result in overcoming anemias was still more marked. The ash of these substances all contain copper. It was then but a step to the discovery that copper is needed to obtain the desired results in anemia. Now it is felt that the copper in liver is its most valuable therapeutic constituent. The addition of copper to iron mixtures has proved a great advance in the treatment of childhood anemias.

While the *vitamins* have not held headline places in medical literature in the past year, much worthwhile knowledge has been added. Vitamin *B*² seems secure as a necessary element in every child's diet especially when the child fails to gain in weight. A deficiency of the vitamin is most likely to occur between the fifth and ninth month. The best available source of this substance is yeast. Buccal antisepsis³, in children at least, will not prevent dental caries. While avitaminosis plays a proven role in the production of dental caries, calcium metabolism is an essential factor in prevention and treatment. Proper calcium metabolism depends upon available vitamin *D*. Vitamin *D* is most effective in the presence of vitamin *A* (thus the swing back to cod-liver oil), also that vitamin *C* plays an important role in the production of good teeth. So, vitamins *A*, *C* and *D* are necessary for proper dentition.

The value of *cistern puncture* for the relief of increased spinal fluid pressure in intracranial hemorrhage and for the direct application of specific serum in meningococcic meningitis is rapidly assuming its proper place as

a pediatric procedure. Lives are now being saved that would have been lost before the use of cistern puncture. Titus and Crawford⁴ present a classic on the subject. History of difficult delivery, difficult resuscitation, fretfulness, inability to nurse and swallow properly, intermittent cyanosis, muscular twitching, excessive loss of weight, fever during first few days of life and increased intracranial pressure and bloody spinal fluid are found in intracranial hemorrhage. The obstetrician and the general practitioner must recognize this condition and render immediate treatment to save life. Cistern puncture is a valuable addition to our therapeutic resources.

Ramon, of the Paris Pasteur Institute, has prepared an immunizing agent against diphtheria by modifying diphtheria toxin by the addition of .3 per cent. formaldehyde and heating to 40-42 degrees C. for a period of three to six weeks. The product loses its toxicity but retains its antigenic properties. In Europe it is known as *anatoxin*, while in the United States it is called *toxoid*. Reactions to this solution are rare. Following two injections at two- to three-weeks intervals approximately 95 per cent. of persons so immunized gain complete immunity to diphtheria. The immunity develops rapidly in contrast to the three- to six-months period for toxin-antitoxin. Toxoid has an added feature in that it is prepared free of any serum and as a result serum reaction never results at the time of injection, or subsequently when serum may have to be administered. The medical profession has accepted toxoid as the immunizing agent of choice.

For *spasmodic croup*⁵ another cause and treatment have been advanced. It is believed to be due to intestinal toxemia. Several small enemas rather than one large one are given with the idea of removing fecal impaction and at the same time liberating pocketed gas. Relief from the laryngeal spasm is almost instantaneous and the condition does not recur the following night. This procedure is of value by test.

Chorea, instead of running its natural course of six to twelve weeks is now conquered in seven to fourteen days, thanks to the introduction of fever therapy. Two favorite measures for producing the fever are the vaccine and nirvanol methods. The latter method (European) produces a marked seda-

tive action followed by fever, after which the drug is withdrawn and the chorea disappears. The vaccine⁶ method uses .2 c.c. of typhoid-paratyphoid vaccine intravenously over a period of seven days. Fever likewise results and the chorea disappears. The nirvanol treatment necessitates hospitalization during the period of administration. Both treatments are efficacious but are still too new to be generally accepted, especially to be recommended for general use.

Treatment of Epilepsy, a book by Fritz B. Talbot, though published in October, 1930, certainly is a 1931 pediatric advancement. The ketogenic dietary treatment is completely outlined. It is practically necessary to hospitalize the patient while undergoing treatment. The results are gratifying in certain types.

The importance of *accessory nasal sinusitis* in children has been more recognized. *B. C. G. vaccine*⁷ as an immunizing agent against tuberculosis has probably gained more advocates in 1931 than it has lost, but its value is still an undecided question. *Undulant fever* is definitely on the increase. Hopes are held out for relief from a specially prepared vaccine to be used both for prevention and cure.

Probably the most noteworthy contribution to pediatrics from surgery is the surgery of the sympathetic nervous system.⁸ Spastic paraplegia and congenital hypertrophy of the colon have been benefited by the *ramisection* operation. Some paraplegics can now walk and the large colon has been reduced to normal size. The *laboratory*⁹ has also lent itself to pediatric advancement. The Shilling *differential hemogram* has already proven its value. While this test does not diagnose any disease it does inform of the severity of an infection and does afford much data as to the progress of the case from day to day. In the adult the normal ratio of immature to mature polymorphonuclear neutrophils is 1 to 15, 1 to 2.81 up to one year, and 1 to 4.48 up to four years. This ratio is known as the nuclear index. An increase of immature cells over the mature cells represents Schilling's "shift to the left." Everyone who has become acquainted with the Shilling test has soon learned its value.

Perhaps some important pediatric advancements have been overlooked. It is the hope of the editors of this column that the past

twelve issues have helped to solve some of the problems of its readers during 1931.

Bibliography

1. HART, E. B., STEENBOCK, H., *et al.* *J. Biol. Chem.*, 77:197, May, 1927.
1. JOSEPH, H. W.: *South. M. J.*, 23:1135, Dec., 1930.
2. WARING, J. I.: *J. S. C. Med. A.*, 27:322-325, Jan., 1931.
3. ROMME, M.: *La Presse Medicale*, 39:754-56, May, 1931.
4. TITUS, R. M., CRAWFORD, W. H.: *Am. J. Ob. & Gyn.*, 21:694, May, 1931.
5. CRAWFORD, L. P.: *N. Eng. J. of Med.*, 204:437-39, Feb., 1931.
6. SUTTON, LUCY PORTER: *J. A. M. A.*, Aug. 1, 1931.
7. HEIMBECK, JOHANNES: *Arch. Int. Med.*, 47:901-16, June, 1931.
7. OVERTON, JON.: *S. M. J.*, 24:878-81, Oct., 1931.
8. CARRELL, W. B.: *J. A. M. A.*, 96:849, March, 1931.
8. LIVINGSTON, W. K.: *J. A. M. A.*, 96:852, March, 1931.
9. GERARD, J. H., BOERNER, FRED: *J. Lab. and Clin. Med.*, 16:306, Dec., 1930.

CISTERN PUNCTURE

(Leo. Jacobi, New York, in *Amer. Jl. Syphilis*, Oct.)

A new diagnostic method, which owes its existence entirely to cistern puncture, was evolved by Sicard and his associates. This is by means of the intracisternal injection of iodized oil. Being heavier than spinal fluid, the oil slowly descends in the subarachnoid space, and can be visualized by the x-ray, thus facilitating the topical diagnosis of obstructive processes and conditions.

Cistern puncture can be employed therapeutically in cerebral hemorrhage or edema, hydrocephalus, epilepsy, etc. Another and even greater assets of cistern puncture is its availability for drainage purposes. In various forms of meningitis, including the early syphilitic, as well as in epidemic encephalitis, it is superior to lumbar puncture, owing to the possibility of frequent repetition. Cisternal drainage has been employed with life-saving effect in uremia and in certain intoxications (lead, methyl alcohol). Drainage in conjunction with intravenous arsphenamine injections is a popular form of treatment in cerebrospinal syphilis.

The after-effects of cistern puncture are insignificant, and rest in bed is unnecessary.

PREVENTIVE MEDICINE requires a keen general practitioner who can diagnose from the signs and symptoms which precede those on which specialists depend for diagnosis.

EYE, EAR AND THROAT

V. K. HART, M.D., *Editor*, Charlotte

RECENT INNOVATIONS IN OTOLARYNGOLOGY

I use the word, innovation, in the title rather than advancement. An innovation may or may not be a real advancement. Time and clinical usage must determine the later status. After long enough practical observation a midway position usually results between extreme enthusiasm and complete disapproval.

The so-called electrocoagulation of tonsils has come lately into vogue. This consists of the application of a high-frequency current by multiple punctures into the substance of the tonsil. Cooking of the tissues around the active electrode results.

We have been experimenting some with this method. However, we feel it does not by any means replace the dissection method.

The reasons are: 1. Time consumed in electrocoagulation. Seven or eight sittings at intervals of a week or more are often required. 2. These treatments are not necessarily without pain. 3. Difficulty of control. Residual tonsil issue may be locked up in scar-tissue formation, or destruction may be carried beyond the tonsillar limits with sloughing and scarring in the fossa.

Moreover, there are very few conditions in an adult in which tonsillectomy cannot be done with safety under local anesthesia with preliminary morphine, the latter sometimes augmented with one of the barbitol derivatives. Perhaps there are a few patients with very severe systemic disease, where electrocoagulation may be used to advantage.

It may be used effectively in destroying tonsillar tags left after tonsillectomy. It is also useful in destroying chronically infected lymphoid tissue at the base of the tongue (lingual tonsil) or in the pharynx. Hurd is using a special electrode in the nasopharynx in coagulating tissue in the fossa of Rosenmuller.

Electrocoagulation is useful in reducing hypertrophied turbinates. By using an electrode which penetrates, reduction may be secured with less reaction than with the actual cautery.

We have found the coagulation current very useful in controlling hemorrhage. The active electrode is merely placed on the hem-

ostat for a few seconds. This is true following tonsillectomy. It is even more useful as a hemostatic agent in external operations involving the ethmoid or frontal sinus or both whether for infection or malignancy or both. Bleeding at this area is very troublesome. A quick dry field is secured with thorough orientation anatomically.

Electrocoagulation offers some promise in early carcinoma of the larynx. Whether or not best applied by direct or indirect laryngoscopy, or as an adjunct to open operation (laryngofissure) only time will tell. So far we have limited its use by indirect laryngoscopy to benign lesions. It is too early to judge our results. It is less apt to precipitate a perichondritis than the actual cautery, and more easily controlled.

We have tried the "radio knife," another type of high-frequency current, in making initial incisions for tonsillectomy. We believe it has no advantage over others. In fact it has some disadvantages in that mucous membrane may be unnecessarily destroyed, or a searing action may be gotten above and beyond tonsillar limits. It may be very useful in other operative fields.

Medical diathermy is another type of high-frequency current with the production of heat to the affected parts. It has been used by some men in treatment of acute sinusitis. We have had no occasion to use this, getting excellent results with the ordinary zorex light which gives external heat. Heat is most useful in relieving pain and must be used with other standard local measures of treatment.

The oxygen tent with continuous administration of cooled 50 per cent. oxygen at a constant temperature has been proven valuable following bronchoscopy. This is particularly true in babies near one year of age. No matter how skilled and gentle the manipulation, a secondary laryngeal edema often supervenes, forcing tracheotomy. This, despite the fact that the foreign body is removed or examination completed in five minutes or less with no anesthesia. Rarely do we work longer than ten minutes.

I have seen one such child unquestionably saved from tracheotomy by the use of the oxygen tent for twenty-four hours. Another with a chest infection following aspiration of a foreign body was kept alive five days and nights in the oxygen tent only to die one-

half hour after the motor became disabled. It would be ideal, if economically possible, to put these small babies in an oxygen tent routinely after bronchoscopy, or in an especially constructed oxygen room. We are indebted here for the help and advice of Dr. Stephen Davis, who owns the oxygen tent with which we have been experimenting.

Porter at the Mayo Clinic is advising routine peroral dilatation of malignant lesions of the esophagus. His results would indicate that patients are more comfortable and live as long if not longer than where palliative gastrostomy is done. The mortality due directly to the dilatation has been very low.

With regard to nasal sinus work there is nothing that is particularly new. Hansel claims that where there is a real allergy of the nose eosinophiles will be present in abnormal numbers in the tissues. If this proves to be true, a small nasal piece for microscopy may help differentiate between a basic sinus conditions and an allergy. Moreover, if the antral washing showed in smear and differential count a high percentage of eosinophiles it might be significant. We have not as yet used this method. It should have further clinical usage before conclusions are drawn.

Louper has used avertin some in otolaryngology. It has come into rather extensive use in other fields of surgery and has been so used here in Charlotte quite successfully. We have not as yet used it in our work, but are considering trying it in radical sinus surgery in small doses in connection with local anesthesia. The prolonged after-effects of the drug would then be avoided. However, our present method of preliminary morphine and veronal followed by local anesthesia has proven very satisfactory.

In looking over the literature for the year, I find little else on which to offer comment in the way of anything new in otolaryngology. In concluding, I would caution against the increasing frequency with which Vincent's of the lung is being diagnosed. We should remember that these organisms may occur in the mouth with or without frank symptomatology. *A priori*, a diagnosis of Vincent's infection of the lung should be made with great discretion unless the organisms are present in the bronchoscopically aspirated specimen. In looking over the records of ninety-five bronchoscopies done in this clinic this year, I find

only one with a Gram-negative fusiform bacillus and we could not get that to grow anerobically—supposedly a crucial test for the organism. At any rate, though it occurs, it is relatively infrequent even in the larger bronchoscopic clinics.

OWNERSHIP OF ROENTGENOGRAMS

(From *Ed. JI. A. M. A.*, Nov. 21st)

The question whether the roentgenograms of a hospital patient belong to the patient or to the hospital was answered by a court for the first time, so far as is known, in *Hurley Hospital v. Gage*, decided on appeal, April 21st, by a Michigan circuit court. The patient had been roentgenographed in the roentgenographic department of the Hurley Hospital at Flint. The usual charge for the service was included in the patient's bill. He refused to pay the charge for roentgenographic service unless the roentgenograms were delivered to him. The hospital refused to deliver them and sued. In the justice's court judgment was given against the hospital. The hospital appealed to the circuit court. At the hearing on the appeal, no one appeared on behalf of the patient. The court pointed out that the hospital sold and patients paid for, not the material that went into roentgenograms, but knowledge and experience. The protection of the hospital might depend largely on the proper preservation of the roentgenograms and, said the court, the films should remain with the hospital. Judgment was given against the patient for the amount charged by the hospital for the roentgenograms.

SCIENCE VS. FOLKLORE IN MEDICINE

(T. S. Harding, Mt. Rainier, Mr., in *Med. JI. & Record*, Nov. 18th)

The Arabians administered dried fox lung in cases of asthma on the theory that because the fox ran far without fatigue its lungs must be potent in some agency to prevent respiratory distress. On some similar analogy they administered the brain of the crafty fox to remedy epilepsy. By plucking the first hair of a newborn babe you could cure your own baldness. Wearing the first tooth lost by a male child would act as Lydia Pinkham's does today. You had only to kiss a mule in those days to be rid of catarrh forever.

VACCINATION AND ECONOMY

(S. G. Floyd in *British Medical JI.*, Oct. 31st)

In 1920 we had a small epidemic of 50 cases, of which nine patients died. The cost of maintaining these cases in hospital must have exceeded the cost of vaccinating many thousands of people, and would have paid the salaries of a large number of public vaccinators. I was on the smallpox ships in the 1894 epidemic, when we had 800 deaths, and I believe a virulent case among an unvaccinated population might easily start another fatal epidemic such as occurred in this town in 1902.

ORTHOPEDIC SURGERY

O. L. MILLER, M.D., *Editor*
Charlotte and Gastonia, N. C.

RUPTURE OF THE SUPRASPINATUS TENDON

Injuries in and about the shoulder joint are frequent, and accurate diagnosis of such injuries in the absence of fracture is difficult. A thorough understanding of traumatic pathology would lead to more intelligent treatment and better end-results. Wilson of Boston, in a recent issue of the *J. of the A. M. A.*, states that in the last 18 months he has come to realize that complete rupture of the supraspinatus tendon is a common lesion. During that period he has made this diagnosis in 10 patients, of whom seven have submitted to operation, with confirmation of the diagnosis and repair of the tendon. In a surgical experience of 16 years, he had made this diagnosis in only two previous cases. He is convinced he has failed to recognize many cases of this injury and that this is true of surgeons elsewhere. The scarcity of medical literature dealing with this subject leads to the same conclusion.

The capsule of the shoulder joint in its superior and posterior portions blends with and becomes indistinguishable from the flat expanded tendons of the supraspinatus, infraspinatus and teres minor muscles as these pass to their points of insertion in the greater tuberosity of the humerus. These tendons themselves blend with one another and can be differentiated only in an arbitrary manner. The supraspinatus tendon lies superiorly and forms the roof of the shoulder joint. It forms also a part of the floor of the subacromial bursa.

Wilson has found that rupture of the supraspinatus tendon commonly takes place close to the greater tuberosity. The muscle then retracts, creating an opening through which there is direct communication between the bursa and the shoulder joint. In addition to complete ruptures there are probably many tears of only a few fibers of the tendon. Codman considers injuries of this type to be the most common cause of traumatic subdeltoid bursitis.

He says Codman has operated on more than 50 patients in whom he found rupture of the tendon, which he has found to be the most common cause of prolonged shoulder disability

following industrial injuries. The lesion is rarely recognized, and one must conclude that it is frequently overlooked.

The lesion is one of late adult life most frequent in those who have done laborious work and is produced either by muscular strain when the shoulder is being lifted in abduction, or by a direct blow on the shoulder, usually from a fall with or without accompanying dislocation. Anterior dislocation of the shoulder is capable of causing rupture of the supraspinatus tendon. Dr. Codman has found it a frequent complication of this injury. Atrophy of all the shoulder muscles occurs within four weeks, most marked in the supraspinatus and infraspinatus regions, four weeks usually with tenderness sharply localized over the tip of the greater tuberosity of the humerus, or just medial to it under the acromion.

The roentgenograms frequently reveal several unusual, irregular areas of calcification in the tendon. In other cases there is a rounding off of the tip of the greater tuberosity from atrophy, with a widening of the sulcus between it and the head which is fairly characteristic.

The treatment is operative unless the tear is so small as to disturb function but slightly, or unless the general condition of the patient contraindicates it. An unskilled worker can not get along without the power to abduct the shoulder. Pain may be so severe as to demand operative relief. The opinion is given that the surgeon should not passively permit a patient to remain content with a physical handicap that can generally be removed with little risk.

Wilson, in summarizing, states that an experience with 10 patients with complete rupture of the supraspinatus tendon in 18 months has impressed him with the frequent occurrence of this injury. Observations at operation indicate gradual weakening of the tendon previous to rupture. The lesion should be suspected in any patient with a shoulder disability of sudden onset, particularly when a painful snap has occurred during abduction or when there has been a fall on the shoulder with or without dislocation. The characteristic sign of rupture is inability to abduct actively, although this movement may be executed passively. This sign may be masked by muscle spasm or adhesions. Repair of the

tendon is rendered difficult by the extent of the gap in the capsule and it is important not only to suture the tendon to the greater tuberosity but to provide a means whereby it may develop a real bony attachment throughout its breadth. The results of operation show that the disability can be removed and emphasize the importance of recognizing this lesion, which is frequently being overlooked.

DIET IN ORTHOPEDIC SURGERY

(Emil S. Geist, Minneapolis, in *The Journal-Lancet*, Nov. 15th)

A chronically painful joint of the lower extremity often ceases to be troublesome in an individual who has been overweight and who, by means of a reducing diet, has brought his weight to normal.

UROLOGY

PROPHYLAXIS AND ABORTIVE TREATMENT OF VENEREAL DISEASE IN THE MALE

For this issue, SIDNEY SMITH, M.D., Raleigh, N. C.

Many cases of venereal disease could have been either prevented or aborted had careful prophylactic measures been instituted early. It is only in this manner that the very high incidence of venereal disease may be lessened. Every physician who treats such diseases should feel it his duty to safeguard the future health of his patient by instructing him as to the correct method of prophylaxis. Once the infection has begun, the patient is subject to the great danger of complications and the expense of a long course of treatment.

Prevention rather than cure should be foremost in the war against this great evil. With this thought in mind, certain simple methods of prevention in venereal disease are described.

PROPHYLAXIS IN GONORRHEA

There are many methods and medicines used in preventing gonorrhea. The prophylactic tube is easily obtained and in common usage. Against gonorrhea its value is uncertain. As the tube contains mercury, its contents may be used in preventing syphilis. The only effective method in the prophylaxis of gonorrhea is the use of one of the silver salts as an anterior urethral injection, Argyrol 10 per cent. solution, neosilvol 15 per cent. or protargol 1 per cent. should be used; they are equally effective. The following general measures are carried out immediately after exposure. Urinate and then wash the gen-

itals thoroughly with soap and water, as soap is an excellent gonococcicide. An anterior urethra linjection of one of the solutions previously mentioned is given. It is best to use a 2-dram, blunt-nose, glass asepto syringe and to inject gently, as only the pendulous portion of the urethra need be medicated. The solution should be retained five minutes by pressure on the meatus. At intervals the pressure is relaxed and a few drops of the solution allowed to escape, which medicates that part of the urethra closed off by the fingers. This method is most effective if used within an hour after exposure; its value decreases in proportion to the delay in its use. If the patient is seen the morning after exposure such an injection does little good. Here is where the physician can chase "old man remorse" away and prevent the mental and physical strain of a 6-weeks' to a year's barrage by the gonococcus. Never say, "wait and see if it breaks out"; it is too late then. Begin abortive treatment at once. The following method has proven satisfactory and is very simple. It may also be used with equally good results in certain cases of early, acute, anterior gonorrhea in which the treatment can be started within 24 to 48 hours after the discharge has begun and before the infection has reached the posterior pendulous or bulbous portion of the urethra. The technic as outlined by Montague Boyd of Atlanta is followed. Two injections of acriflavine 1-1000 solution (Boots' preparation) are given daily. It is best given with the patient lying down. One or 2 drams of the acriflavine is injected into the anterior urethra. The solution is held in by closing the meatus with the fingers. A thin strip of cotton, 1 inch wide and 3 inches long, is folded over the penis and a similar piece placed over it. The meatus is released and while holding the penis erect the acriflavine is allowed to ooze out slowly. The wet fibers of the cotton tend to hold the lips of the meatus together so that the solution will come out gradually, keeping the urethra bathed in it for a period of 10 minutes. These injections are continued for one week. This is sufficient in the cases treated before the discharge begins, but where the initial smear shows gonococci the treatment should be continued with anterior irrigations of warm potassium permanganate solution 1-5000 twice daily. In some cases the patient

is given neosilvol in 5 per cent. solution to use as an anterior injection twice daily for a few days. Three or four weeks later the urethra should be gently dilated with sounds.

PROPHYLAXIS IN SYPHILIS

It is well to begin prophylaxis before exposure. Here the sanitube of mercury ointment may be used, or plain mercury ointment in strength of 33 1/3 per cent. is used. A small amount of the ointment is injected into the urethra and the penis thoroughly covered. Immediately following intercourse the urine should be passed and the whole penis well cleansed with soap and water. Dry and then squeeze some of the ointment into the urethra. Then thoroughly rub the mercury over the entire penis and scrotum. This should be left on for six or eight hours. When properly used, such prophylaxis seldom fails. If the physician should see the patient several hours after exposure, it is wise to use the same method as described above in hopes that syphilis may be prevented.

PROPHYLAXIS IN CHANCROIDAL INFECTION

Ordinary cleanliness with soap and water immediately after exposure will prevent chancroidal infection.

CONCLUSION

Simple methods in preventing venereal disease have been described, which are highly effective if used with no delay and as directed.

TRAUMATIC HEMATURIA

*For this issue, C. O. DeLANEY, M.D.
Winston-Salem, N. C.*

The cause of hematuria appearing soon after a severe injury to any portion of the urinary tract is usually not a difficult problem in diagnosis. Not infrequently, however, we see patients with blood in the urine who attribute its presence to a possible minor injury sustained in heavy lifting or straining. In this type of case, a careful examination will occasionally reveal some pre-existing lesion in the urinary tract.

This fact was quite forcefully impressed upon me by a recent experience. One year ago we saw a patient who had been bleeding quite freely for a period of two weeks which he claimed was due to a strain sustained in lifting a heavy timber. The past history suggested some previous trouble in the right kidney, but the patient declined to have a uro-

logical examination. Six months later, he returned for examination which revealed an advanced carcinoma of the right kidney. This is indeed a sad story but it is one that is no doubt familiar to all of us who limit our practice to this specialty.

Every now and then we see patients with hematuria who associate the blood in the urine with some minor or trivial injury. This is especially true with men who are engaged in active outdoor work. With these people, lifting and straining is practically an everyday occurrence, and when they first notice the blood in the urine it is natural for them to recall some minor injury and associate the two.

The family physician sees more of these cases than does the specialist. In most instances he is the first to be consulted and therefore must assume the greater responsibility. The patient is usually governed by his counsel.

It is possible for such an injury to be the direct cause of hematuria but we must bear in mind that the kidneys are not so vulnerable as some of our patients imagine. It is reasonable to presume that a kidney which is already diseased is more liable to injury. Horseback riding occasionally dislodges a calculus from the pelvis or ureter and precipitates hematuria.

There is authority for attributing few cases of any such disease to trauma, and I can offer no better example to support this claim than the brief history of this case.

A complete examination in similar cases is always indicated, regardless of the history, and it is the clear-cut duty of every physician consulted to warn the patient of the risk he assumes in putting it off. It may sometimes be unnecessary; on the other hand, it may prevent a costly error.

THE HEART OF THE ATHLETE

(Harlow Brooks, New York, *The Diplomat*, Nov.)

Young men who aspire to athletic games should be most thoroughly examined and those showing any heart defect even of slight character should be forbidden competitive athletics of anything beyond the usual severity.

Those who have in their early youth been accustomed to heavy athletics should continue exercise to a much larger degree in their after life than those who have lived but the ordinary life in so far as physical stresses are concerned.

PUBLIC HEALTH

GEO. M. COOPER, M.D., *Editor*, Raleigh, N. C.

SOME ADVANCES IN PUBLIC HEALTH WORK IN 1931

The North Carolina State Board of Health was first organized in 1877. The State Medical Society constituted the first Board. The members of the State Society organized for this responsibility by appointing a committee at their first meeting following the General Assembly of that year through which committee the new organization was to function. The appropriation by the State was only \$100.00 per year. By the time the following Legislature met, the members had obtained sufficient experience to realize that such an organization was not practicable; therefore a definite board of health was created. This type of board, with modifications and changes on two or three occasions, has functioned ever since, on up to the meeting of the last General Assembly.

For reasons well known to the medical profession of the State, and therefore not necessary to repeat here, the Board as constituted for many years was abolished by the last Legislature. The creation of the new Board and its organization constitutes an epoch in public health work in this most unusual year in the State's history. I will go further and say that it constitutes the greatest advance for progressive public health work achieved in many long years.

The first major official act of the new Board was the election of Dr. James M. Parrott as State Health Officer. Dr. Parrott's wide experience as a successful business man and his close contact with the medical profession throughout the State and his identification with every progressive cause in the State for more than a quarter of a century automatically assure to the people of North Carolina from the beginning an administration of public health affairs which is sure to command the respect of the people of the State, as well as the admiration of similar organizations in other States in this Union. Naturally the organization effected by Dr. Parrott and the new Board may be considered identical in progress with the creation of the new Board and the election of Dr. Parrott himself. Another advance may be noted in the closer correlation of the public health affairs of the

State with the educational and welfare agencies, all working toward the same ultimate goal.

The State Laboratory of Hygiene has made some changes in its methods and added some new facilities, such as the addition of toxoid to be used in the prevention of diphtheria. An increasing number of Wassermann tests are made by the laboratory almost every month, indicating that the control of venereal disease is being seriously considered more than ever before by the physicians of the State, and this sentiment is reflected in the public mind by the willingness of the patients to cooperate.

It is too early to obtain definite figures on the control of certain diseases such as have heretofore cost the lives of entirely too many people in the State; however, the information at hand is that the death rate from pellagra this year will not be much more than two-thirds as high as 1930. The infant death rate, which, as all of us know, has been for several years disgracefully high, shows some reduction so far, although not so much as many of us had hoped to see. The foundations are being laid, however, for work in this field, which it is earnestly hoped may result within the next two or three years in a marked improvement in this situation. There has been entirely too much diphtheria and typhoid fever during the year, but the ground work is being done toward improvement in this regard.

Finally, one of the most encouraging indications is the fact that the teachers of North Carolina are more awake to their opportunities in teaching the fundamental principles of health education than they have ever been before. There is hardly a school that is not making an unusual effort to impart definite and practical instruction to the pupils as to how the ordinary common communicable diseases may be controlled. These teachers are beginning to impress upon the pupils that it is a desirable thing to be healthy and that to achieve good health sometimes means sacrifices. Teachers are impressing upon the children that when a child has decayed teeth, it is imperative to buy dental service, even if it means doing without a new suit of clothes, and that for an undernourished child in poor physical health it is more necessary to buy and pay for a thoroughly competent medical

examination and for whatever treatment is necessary than to make payments on the radio and the automobile.

In spite of panic, low prices and general discouragement, the public health forces of the State are looking forward to the future with hope undismayed.

THE PROBLEM OF THE CHILD IN THE TUBERCULOUS HOUSEHOLD

(R. C. Wingfield in *The British Medical J.*, Oct. 31st)

The general practitioner must view this mainly as a clinical problem; his duty is towards the child and its parents rather than to the community at large. Is he to examine all the contact children in his practice by the Mantoux reaction for evidence of infection and by x-ray for evidence of lesion? No, he should not have to deal with these personally; but these investigations should be made for him, and he should have a knowledge of their results. His duty is to turn his attention to the proper hygiene of the home. He must use every effort to sterilize the open case which is the source of contact, and to dilute the infection either by treatment or by segregation, partial or complete. It is not his duty, and would be a waste of his time and injurious to his practice, if he were to say to the tuberculous mother, as did one practitioner of my acquaintance, "You must never see your child again." Adolescence is the time when the parent and child need guidance in choice of work, life and environment. That is the time when the x-ray will be particularly useful, for apical infiltration in childhood and adolescence, although apparently latent, always goes on to definite clinical pulmonary tuberculosis if untreated.

The public health officer will stand behind the practitioner to supply him with such facilities as will help him with this problem, or to step into the breach with these facilities in the interest of the patient if the practitioner or the parent is neglectful of his duties. It will be the public health officer who will draw the attention of the general practitioner to open cases of tuberculosis which are the source of contact to the children in his practice. I would like to see a tuberculin reaction done on every child. It certainly should be done on every contact child, and every positive contact reactor should have the thorax examined radiologically, and the information thus obtained should be filed and recorded for future information and research and should be passed on to the general practitioner. This is essentially the work of the specially trained public health officer. Further, he should be ready to re-examine such children whenever the practitioner thinks it is necessary, and be ready at all times with his special knowledge of the disease and with the facilities at his disposal to give any advice or help that may be required.

In a preventorium in Toronto contact children are

placed, provided they show no evidence of active clinical tuberculosis, and kept and trained and taught until the tuberculosis authorities are satisfied that their home conditions have been rendered as satisfactory as possible. The average stay is three to four months. That seems a reasonable method of spending public time and money.

Whatever protection is afforded by *B. C. G.* is admittedly short-lived, and continuous vaccination throughout childhood of all contact children is an impossibility, but its use on infants might convert the unprotected non-reactor into the partially protected reactor. In children a high degree of hypersensitiveness to tuberculin is a dangerous sign. This suggests, for those who can not bring themselves to support the use of *B. C. G.*, the use of the admittedly harmless tuberculin. It would be quite possible for those contacts who showed what was agreed to be a dangerous degree of hypersensitiveness to be desensitized by a course of tuberculin injections.

I do not think the problem is so very grave a one as it sounds, and it seems to me that the future safety of our children depends on the improvement in personal, familial and community hygiene.

SEX EDUCATION incorporates the facts of the biology of the sexual life, its psychologic and social implications can be successfully given the young child, thereby allaying the morbidity of curiosity that so universally surrounds the sex impulse and preventing unguided explorations. The persistence of a habit needing correction must be met by lending a sympathetic ear to the problems of the personality, an absence of moralizing and censure, in order to gain the full confidence of the individual. Sex conflicts are to be stripped of their paralyzing influences of fear by correction of misconceptions, and the self esteem of the patient rebuilt with encouragement and substitution of more socially acceptable interests and activities in keeping with his needs—E. M. Perry, Dallas, in *Texas State J. of Med.*, Nov.

WHAT SHALL WE DO ABOUT REFRACTION?

(E. W. Patton, Chattanooga, in *Jl. Tenn. State Med. Asso.*, Nov.)

If by refraction we mean merely to prescribe lens that will aid vision, relieve strain, etc., then I see no reason for our doing refractions. But, if a request for a refraction is made, an opportunity for a careful eye examination, as well as that of other parts of the body, then we should do refractions and refract properly. It is mere guess work to refract without the aid of a cycloplegic. It is our duty to acquaint the public with the knowledge they should have.

"Medicine may not be an exact science, but it is an old art, and its practice has no record of monotony."

HOSPITALS

MERCER C. PARROTT, M.D., *Editor*, Kinston, N. C.

THE HOSPITAL SITUATION

It is my opinion that the private hospitals of North Carolina are facing a most difficult problem—that is, the problem of continued existence and that, unless there is a radical change in the methods of handling the business of hospital operation, the next five years will bring about final closure of many of our private institutions which we have worked so hard to maintain.

The situation that now faces us has been brought about by three things. First, we have to consider the State-wide, nation-wide and world-wide depression.

Then we all realize, I am sure, that we have been guilty of lax management in that we have been conducting our private hospitals as semi-charitable institutions. That is, we have been carrying a tremendous overhead of non-paying patients, some of which were true charity cases but a great many of which were just plain dead-beats. These non-paying patients more than offset any possible margin of profit obtained from the 100 per cent. payers.

Although the Duke Hospital in Durham is undoubtedly doing a great work for the people of North Carolina, I cannot help but feel that it is one of the three causes bringing about the acute situation of the private hospitals. I have been informed on good authority that in my community there are many cases who have taken advantage of the Charity Department at the Duke Hospital, when they could have arranged to pay a reasonable hospital bill in one of our local hospitals.

Now, I have no suggestions to offer as a remedy for the depression. I do not know what, if anything, can be done about the Duke invasion. But I do feel that, self-preservation being still the first law of nature, it behooves us who are owners and operators of the little struggling private hospitals to try to look out for ourselves. We cannot lower our standards of service, for our patients rightly feel that they should receive fully as much, and probably even more, for their money than in the halcyon days of three or four years ago. Therefore, we must economize in the only way left—that is, conduct our institutions just

like the hotel men conduct their hotels. We must see to it that every patient, however poor or however rich, pay his or her hospital bill. This is the policy we are pursuing in our little hospital, and although it is very distasteful and at times heart-rending, we realize that it is our only hope for continuance. We do not refuse our professional services to anyone in need; but we feel that hospital facilities are not rightly our personal burden, but a community burden to care for the charity cases.

GENERAL PRACTICE

WINGATE M. JOHNSON, M.D., *Editor*
Winston-Salem, N. C.

ADVANCES IN GENERAL MEDICINE IN 1931

Perhaps the most noteworthy contribution to medicine in 1931 is the acceptance of the *cortical hormone of the suprarenal gland*, announced by Swingle and Pfiffner in March, 1930. It has been tested thoroughly by Rowntree and others at the Mayo Clinic, and shown to have a specific effect in Addison's disease. In some of their cases, the result is little short of miraculous. Rowntree and his associates conclude an article on the subject in the *Journal of the A. M. A.* for November 14th with the statement that "the experience of the last year has established beyond question the activity and the clinical usefulness of this preparation in the treatment of patients with Addison's disease. As such it marks the close of the experimental phase." This preparation is not yet on the market, but it is probable that it soon will be. It marks another victory for the workers in internal secretions.

Another valuable contribution is a preparation of *liver extract* that can be used *intravenously* or *intramuscularly* in the treatment of pernicious anemia. A single intravenous dose of 10 c.c. furnishes a week's treatment; or daily intramuscular doses of 2 c.c. may be given instead.

In immunization against diphtheria the original toxin-antitoxin mixture has fallen into some disrepute because of the frequency of anaphylactic reactions that followed later doses of the serum, such as tetanus antitoxin. This year it has been largely supplanted by diphtheria *toxoid*, which contains no serum and gives a higher percentage of immunes

than the older toxin-antitoxin mixture.

Dochez and other observers seem to have established that the *cause of the common cold* is a filterable virus, though it appears that the numerous complications that follow are due to associated bacteria. As yet, no practical application has been made of this discovery.

Our own Dr. Wm. deB. MacNider, through *Southern Medicine and Surgery*, offered a valuable contribution in showing that the *kidneys of older patients* were far more apt to be damaged by inhalation anesthetics than those of younger individuals; and that this damage might be forestalled by giving the patient a large amount of carbohydrate food for two or three days before the operation, or glucose intravenously in case of an emergency.

SHORTER SCHOOL HOURS FOR YOUNG CHILDREN

(With apologies to F. H. Richardson)

In September, 1928, *Southern Medicine and Surgery* published the results of an experiment tried in two schools in Richmond, "to investigate the relation of shorter hours to the health of children in the first three grades of school." Our readers may recall this, but it is worth repeating, briefly. The experiment was under the auspices of a committee of four doctors, two mothers and one teacher. Two schools, serving as nearly as possible the same class of people, were used, each furnishing a few more than 250 pupils. In one school, the Ginter Park, the children were dismissed at 12:30 from the first two grades, at two in the third grade. The William Fox school was used as a control, the old hours being retained—the children in the first grade being dismissed at 1:30 or 1:45; in the second grade, at 2; and in the third grade at 2:45. The opening hour for all grades in both schools was 8:45.

The experiment lasted a full year. At the end of that time, the children in the Ginter Park School had gained 1.31 pounds, or 34.3 per cent. more than the control group; there were 18.5 per cent. more A's on deportment; and there were six times as many days lost on account of sickness in the control group, with long hours—or 600 per cent. Finally, 88.3 per cent. of the parents in the short-hour school answered "yes" to the question, "Do you think the shorter hours are of bene-

fit to your child?"

It is hard to think of a more accurate experiment on human beings; yet every school man above the rank of teacher who has been told of it dismisses it lightly as not being "scientific" enough. One of the most highly-rated school executives I know insists that there is no such thing as mental fatigue. When I asked for his authority he gave Thorndike. When pressed still further, he finally lent me his copy of Thorndike's book containing the experiment on which this astounding statement was based. This experiment consisted in adding up numerous columns of figures, and showing that speed and accuracy had decreased only slightly after several hours. It was carried out by an educational expert on herself, with the intention of proving her case, and was not checked by a control who did not give a whoop what the result was. Yet this man held that such an experiment was quite enough to overthrow all common sense, but laughed the Richmond experiment out of court as not being "scientific."

This long preamble is to lead to the statement that we medical men owe it to our primary grade children to plead in season and out of season for shorter hours for them. It may be argued by some of the older men that the "old-field schools" kept in until 4 o'clock, longer than the modern school. True: but the recesses were longer, and the children were allowed absolute freedom in their play. Nowadays even their exercise is under supervision, with almost military discipline, and they are graded on "physical education" as rigidly as on mathematics. Any one who knows the *A B C's* of child psychology knows that it is impossible to hold the attention of any normal child of six to eight years for six to eight hours a day: yet that is what our so-called educators expect of them. The teachers know better, as I have found out from numbers of them who knew the echo of their voices would not get back to their superintendent, supervisor, or principal; but a teacher has little more voice in the modern school system than has a private in the Prussian army.

Let every doctor re-read the results of the Richmond experiment, and then make up his mind to espouse the cause of the child at every opportunity.

A SIXTEENTH CENTURY QUACK

A most entertaining book is *The Scandal and Credulities of John Aubrey*, edited by John Collier. It is a collection of the most interesting parts of his "Brief Lives," which, in the vernacular, give the low-down on many of the most prominent citizens of the 17th century and before. His list includes Sir Walter Raleigh, William Shakespeare, Sir Francis Bacon, Ben Johnson, John Milton and others. The one character that most interested me, however, was William Butler (1535-1617), who "never took the degree of Doctor, though he was the greatest physician of his time." Aubrey goes into some detail in giving a few of Dr. Butler's case histories. Whatever else may be said of his methods of treatment, they were at least original and dramatic. He first became famous by treating a minister for opium poisoning. The poor man had been notified that he was to preach before King James. The parson heard that "the King was a great Scholar, and studied so excessively that he could not sleepe, so somebody gave him some opium, which made him sleep his last, had not Doctor Butler used this following remedy." He ordered a cow "to be killed and opened, and the parson to be taken out of his bed and putt into the Cowes warm Belly, which after some time brought him to life, or els he had infallibly dyed."

Another case: "The Dr. lyeing at the Savoy in London next the water side, where there was a Balconie look't into the Thames, a patient came to him that was grievously tormented with an Ague. The Dr. orders a boat to be in readiness under his windowe, and discoursed with the patient in the Balconie, when, on a signall given, two or three lusty Fellowes came behind this gentleman and threwe him a matter of twenty feete into the Thames. This Surprize absolutely cured him."

Another case offers a suggestion for the dermatologist. "A gentleman with a red, ugly, pumpled face came to him for a cure. Said the Dr., I must hang you. So presently he had a device made ready to hang him from a beame in the roome, and when he was e'en almost dead, he cutt the veines that fed these pumples and lett out the black ugly Bloud, and cured him."

Dr. Butler, like many a modern quack, cultivated a reputation for eccentricities, which doubtless enhanced his reputation. "He was much addicted to his humours, and would suffer persons of quality to wayte sometimes some hours at his dore, with coaches, before he would receive them." Doubtless he knew the effect on the public of such a display of prominent patients. "A French man came from London to Cambridge, purposely to see him, whom he made stay two Howres for him in his gallery and then he came out to him in an old blew Gowne. The French gentlemen makes him 2 or 3 very lowe Bowes to the ground: Dr. Butler whips his Legge over his head, and away goes into his chamber, and did not speak with him."

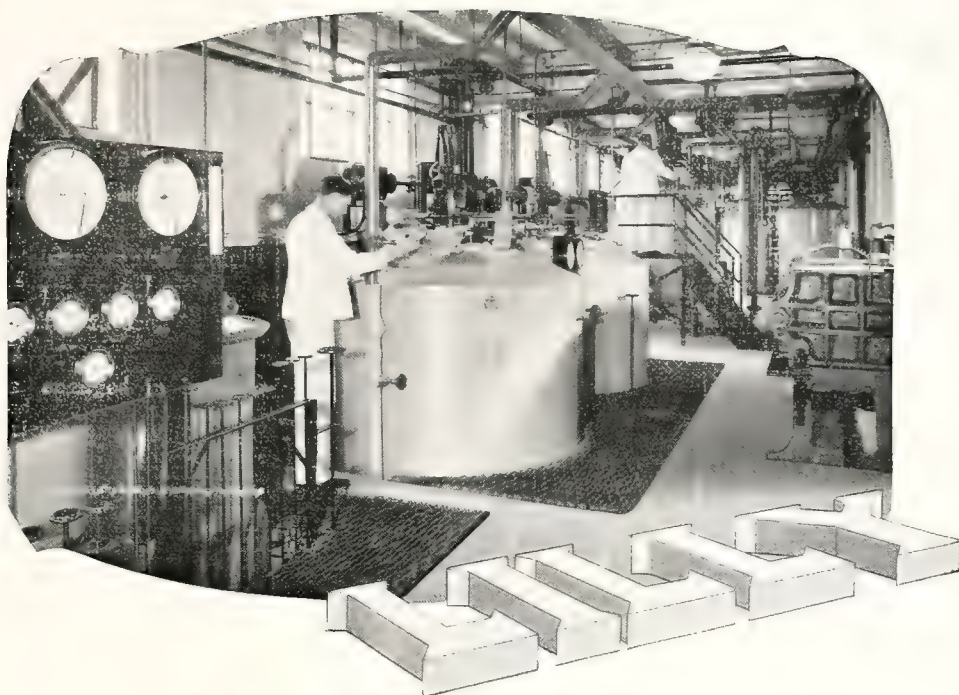
He seems to have had a rough sense of humor that appreciated a joke on himself. "A serving man brought his master's water to Doctor Butler, being then in his studie (with turned barres) but would not be spoken with. After much fruitlesse importunity the man tolde the doctor he was resolved he should see his master's Water; he would not be turned away, threw it on the Dr.'s head. This humour pleased the Dr., and he went to the gent and cured him." As to whether the unusual opportunity for urinalysis helped in curing the gent, deponent Aubrey said nothing.

In another "brief life" occurs a description of a disgusting invention by a lawyer, Walter Rumsey (1584-1660). "He was much troubled with Flegme, and being so one winter at the Court of Ludlowe, sitting by the fire, spitting and spawling, he tooke a fine tender sprig and tied a ragge at the end, and conceited he might putt it down his throat and fetch up the Flegme, and he did so. Afterwards he made this instrument of Whale bone. I have oftentimes seen him use it. I could never make it goe down my throat, but for those that can 'tis a most incomparable engine. If troubled with the Wind it cures you immediately. It makes you vomit without any Paine." This last statement is easily believed.

ADVANCES IN GENERAL SURGERY IN 1931

A. DET. VALK, M.D., Winston-Salem, N. C.

Avertin has gained in popularity as a general anesthetic. Particularly in genito-urinary,



ALTHOUGH Iletin (Insulin, Lilly) is a delicate product, much ponderous equipment is required to produce it. These storage tanks are seen from their second floor level.—Laboratories of Eli Lilly and Company, Indianapolis, manufacturers of

Iletin (Insulin, Lilly)

THE FIRST INSULIN COMMERCIALY
AVAILABLE IN THE UNITED STATES



Among other important products of the Lilly Laboratories are
LIVER EXTRACT No. 343 TABLETS AMYTAL
PULVULES SODIUM AMYTAL PARA-THOR-MONE
EPHEDRINE PREPARATIONS

and an extensive line of pharmaceutical and biological products
for use under the direction of physicians and advertised
through professional channels only.

PROGRESS THROUGH RESEARCH

neurological and thoracic surgery have advances in technique been made. Recent developments in prostatic surgery, by T. M. Davis of Charlotte, as to the electric cauterization method of removal of gland should simplify subsequent operative procedures in certain types of cases. Intravenous urography with the use of uroselectan has proved valuable from the diagnostic point of view.

Bronchoscopy has been developed and is now more generally available, as contrasted with the restricted facilities of a few years ago. Experimental work in every field of surgery continues and though in many instances the results are hardly proportionate to the efforts put forth, such work should be encouraged to the fullest extent.

CLINICAL CHEMISTRY & MICROSCOPY

DAVID R. MURCHISON, M.D., *Editor*
Wilmington, N. C.

THE SIGNIFICANCE OF ALBUMIN IN THE URINE

What does albumin in the urine mean? Does it point *per se* to disease of the urinary tract? Is the amount of albumin important as an index to greater or less disease? These and other questions regarding albuminuria may be difficult or impossible to accurately answer in a given case. Certain it is that the laboratory worker may not be able to explain the albumin, and so it is more frequently than not necessary to consider the patient as a whole, his age, his build or posture, his habits, and his past or present health. New-born babies show albumin in a high percentage of cases; young men and women from 15 to 30 not infrequently show postural albumin; albumin may appear temporarily after excessive or unaccustomed exercise; it frequently occurs late in pregnancy and after labor; it is well known to be transient with fevers and heart failure and after taking certain drugs. In these conditions the albumin may have no important significance, but this conclusion can be reached only with the knowledge possessed by the clinician, which is so often true of many laboratory procedures.

Albuminuria has been divided into two general classes, the false—or accidental—and the renal. The former is explained by pres-

ence of blood, pus or vaginal discharge, is apt to be small in amount, and can likely be explained by microscopic examination. All other cases, even those mentioned in the preceding paragraph, he calls the renal type.

Among the cases of renal albuminuria, one which is fairly frequent and rather important because of its relative insignificance is postural albuminuria. It is not infrequently first found during a life insurance examination, in a young man. If it is true that it has little or no significance, then it is obviously wrong for the applicant to be rejected for insurance, and also to be subjected to the inconvenience of an anti-nephritic regimen, with all of its limitations, and perhaps the apprehension of the patient and his family. This type of albuminuria can be proven easily and definitely by the constant disappearance of the albumin after one or two hours' rest in bed. On such proof, insurance companies are known to have accepted applicants as standard risks.

The more serious conditions accompanied by albuminuria, called by Todd those with organic changes in the kidneys, include parenchymatous and interstitial nephritis, nephrosis, amyloidosis, arteriosclerosis, tuberculosis and neoplasm of the kidneys. In these conditions albumin is apt to be persistent, although it may vary in quantity from a faint trace to a heavy cloud, and it is to be noted that the most serious cases of nephritis may show only a very faint trace of albumin.

In the light of these facts, it is obvious that albumin in the urine may spell much or little. It may be easily explained on the basis of some one of the less serious causes mentioned above, in which case the albumin should more or less promptly clear up, unless it should belong to such a type as the postural case. If it should be persistent and still unexplained, it may be a sign of nephritis, and that is the question of greatest concern. Before making a positive diagnosis of nephritis one should get confirmatory evidence, as may be found perhaps in specific gravity changes, or in the presence of red blood cells or tube casts. While casts add to the significance of the albumin and point to nephritis, they do not prove it, with the one exception of red blood cell casts, which are generally believed to be pathognomonic of nephritis. Of course



EVERY CHILD

deserves protection
from tuberculosis

Buy
CHRISTMAS SEALS

THE NATIONAL, STATE AND LOCAL TUBERCULOSIS ASSOCIATIONS OF THE UNITED STATES

it is proper to determine the function of the kidneys, and this information is obtained not alone by the psp. test, but also by estimation of either urea nitrogen or total non-protein nitrogen of the blood, and—simplest of all—the Mosenthal or two-hour specific gravity test. This test is not used sufficiently, and may give valuable information earlier than the others mentioned. While the laboratory worker is doing all he can to answer the question whether nephritis is present or not, the clinician takes a history and makes an examination, and may then diagnose nephritis, or he may be able only to say he can find no present clinical sign suggesting it. In the latter case, the question should be kept open and subsequent attempts made to classify the albuminuria, for with the passage of time definite signs of nephritis may develop, which could not be recognized in the incipency of the disease.

To answer again the questions asked at the first of this discussion, albuminuria may mean much or little, it does not *per se* prove the presence of nephritis, and its amount is not a sure index to the gravity of the case.

THE LABORATORY IN CLINICAL MEDICINE

C. C. CARPENTER, M.D., *Editor*

Wake Forest College School of Medicine
Wake Forest, N. C.

Most of us while in medical college looked upon the preclinical subjects as a sort of punishment through which we had to pass before actually studying medicine. Too often that idea is carried with us in later years and no serious effort is made to correlate the preclinical or laboratory subjects with the findings at the bedside. There seems to be a tendency to either forget everything of value learned in the laboratory, or to accept as the court of final appeal everything seen on the laboratory sheet. There is a need to stop and consider how we may more sensibly use the laboratory. Of course, there are many who occupy the middle ground. In this class we find the better diagnosticians and men who are responsible for clinical progress. Today we are trying by various means to impress on the laity the importance of early diagnosis, especially in cancer and tuberculosis. Our great responsibility is to inform ourselves so as to give the proper value to ordinary laboratory procedures. For anything beyond this

laboratory men are available who have the time, inclination and special training for working out such problems for us. It is always desirable for the clinician to do the simpler examinations himself. This keeps fresh in his mind the underlying pathology, since materials taken for study are directly related to alterations in structure or function of the diseased part. Also, it is not always convenient to call on the laboratory and valuable time may be lost in making a diagnosis. Most of these examinations may be made in the home or office in from 10 to 20 minutes. Many physicians find it convenient and helpful to carry pipettes, diluting fluid, Wright's and methylene blue stains and a microscope in the car. These can be as conveniently carried as the stethoscope, the sphygmomanometer, or the otoscope. This practice is especially valuable in such diseases as poliomyelitis, meningitis and diphtheria, in which early diagnosis is imperative.

From the laboratory and clinical standpoint, diseases may conveniently be divided into five classes: 1—acute inflammatory, 2—blood, 3—degenerative, 4—metabolic and 5—tumors.

1—In this group nearly all information received from the laboratory centers itself around changes in the blood picture, and identification of the various causative organisms. Since the pathological changes usually relate to the blood picture, and the bacteriological differences are often simple, it seems that a diagnosis with the aid of the laboratory should be, in most cases, relatively easy. In the frequent complaint of abdominal pain with fever such aid is sometimes omitted. This is probably due to the fact that it is frequent, and the diagnosis is acute appendicitis in so many cases. In a case recently brought to my attention the patient complained of rather indefinite abdominal pain for several days and a diagnosis of typhoid fever was made. Following death an autopsy revealed a ruptured appendix, with general peritonitis. On the other hand, I once performed an autopsy in a case in which the appendix had been removed, and the patient died of typhoid fever. It would readily be admitted that these are extreme instances. But all would probably admit that this should not happen in two cases in a small series of autopsies. A white

blood count would have suggested to the physician immediately that the diagnosis was incorrect: a very definite leucopenia with a relative lymphocytosis occurs in typhoid fever, and in most every case of acute appendicitis a leucocytosis with greatest increase in polymorphonuclears. Aside from this we have the bacteriological and serological tests for the identification of typhoid. We have learned not to be satisfied with a simple total and differential blood count in acute inflammatory diseases. Since the polymorphonuclear neutrophile calls for most consideration, the newer method of doing a differential count includes determining the percentage of immature forms coming into the blood stream. This is the Schilling method, used extensively in England and Germany. The polymorphonuclear originates in the bone marrow as a cell with a single nucleus. This nucleus becomes first indented, then lobulated; the cells with slight indentation we call young metamyelocytes and the lobulated ones, old metamyelocytes. With such a histogenesis in mind, it seems only natural that we should find metamyelocytes in the circulating blood in proportion to the severity of the inflammatory reaction.

A physician who finds a membrane in a child's throat and does not make a smear and culture should be condemned. A smear and stain for diphtheria can be made in ten minutes. Anyone can recognize the organism with a fair degree of certainty, if he will spend a few minutes studying its morphology. A cloudy lumbar puncture fluid under increased pressure indicates acute inflammation, usually meningitis or poliomyelitis. If pus cells predominate with a great increase in total count it is meningitis; if lymphocytes predominate with a relatively low count, poliomyelitis. I have seen a general practitioner thus make a diagnosis of poliomyelitis and serum given before the specimen could have reached the laboratory! This is very important when we realize that convalescent serum must be given in the first 24 hours, if paralysis is to be prevented.

2—The use of the laboratory in blood diseases is so well known, it seems unnecessary to give a great deal of time to its discussion. The leucemias and primary anemias can rarely be diagnosed early without a careful study of the blood. Many cases of so-called

HERE is one of the advertisements of The Sugar Institute

THE advertisement reproduced here is one of the series appearing in newspapers throughout the country. In order to keep the statements in accord with modern medical practice, they have been submitted to and approved by some of the leading authorities in the field of human nutrition in the United States. The Sugar Institute, 129 Front Street, New York.

MEAT-COUNTER **bargains**
ARE MORE **delicious**



WHEN SEASONED WITH
sugar

In cooking meat, the combination of sugar and salt blends tastefully with the meat juices.

Every day your meat dealer offers cheap cuts of meat which have an irresistible appeal to your sense of thrift. And you can give most of these cuts an irresistible taste appeal by seasoning them with sugar.

Of course salt should be added to the meat as it cooks, to overcome flatness. But the value of adding sugar is that it develops and heightens the flavor of the meat in a

way no other ingredient can. Try a dash of sugar to season pot-roasts, braised lamb and veal, stews and meat loaf. In boiling corned beef or ham, add a half cup of sugar, more or less, to the water. "A dash of sugar to a pinch of salt" is also a fine seasoning for many fresh or canned vegetables. Flavor and season with sugar. The Sugar Institute.

"Flavor and season with Sugar"

agranulocytic angina are not diagnosed because the blood picture is not properly studied. The condition is characterized by sore throat and fever, with ulceration of the tonsils. Where you would naturally expect an increased total count with such clinical findings, you find it down around one thousand, with a marked decrease, or absence, of leucocytes of the granular or polymorphonuclear type.

3—Many of the laboratory procedures in the degenerative diseases are of uncertain value. Although there is not a definite relation between the clinical and pathological findings in nephritis, this group presents many valuable findings. A study of the different types of casts will help determine the type and progress of the disease. The psp. test is perhaps the best means of estimating kidney function. Several serological tests are used to determine the retention of waste products. Many consider the urea-nitrogen determination the most valuable. Creatinin determination is valuable, especially in prognosis. The retention of nitrogenous waste first becomes apparent by a retention of uric acid, later by a retention of urea and, lastly, by a retention of creatinin. Thus it would seem clear that an abnormal increase of the latter would be an unfavorable sign.

4—The metabolic diseases can rarely be treated accurately without the aid of the laboratory. This is especially true in diabetes mellitus and goitre. Sugar appears in the urine in a good many conditions. We have what has been called renal glycosuria, in which there is probably some developmental defect of the kidney which lowers the renal threshold, allowing sugar to appear in the urine when the blood sugar is normal. In diabetes mellitus, there is altered metabolism, due to disease of the islands of Langerhans in the pancreas. This causes an abnormal increase of sugar in the blood. In turn, sugar appears in the urine, but not until the blood sugar is considerably above normal. It may well be compared with a dam holding back a pond of water. So long as the water level stays below that of the dam, none flows over. We may get an overflow by lowering the dam—renal glycosuria, or by raising the water level—diabetes mellitus. We find that the amount in the urine is not constant in rela-

tion to the amount in the blood. To be certain about the condition of the patient, it is necessary to do a blood sugar determination. It seems safe to say that no case of enlargement of the thyroid gland should be treated, without first having a basal metabolism determination. The four types of goitre most commonly seen are: the goitre of adolescence, exophthalmic goitre, adenoma of the thyroid and cancer. The goitre of adolescence appears in girls in their teens. Unless we know how much the metabolism is increased, we cannot tell how much iodine will be needed to bring it back to normal. Too much or too little iodine usually causes them to become more toxic, going into the exophthalmic class. When properly treated they usually have a happy recovery. In exophthalmic goitre we may see improvement for a time under medical treatment, but if the metabolism starts up during such treatment surgery should not be delayed. Adenoma of the thyroid may go for years before becoming toxic, or may never become so. If the metabolism is normal, medical treatment will do more harm than good. It is not appropriate to discuss cancer of the thyroid here.

5—Tumors cannot be accurately and safely diagnosed without the aid of the microscope. We too often assume that the valuation information given out by our Committee on the Control of Cancer is meant for the laity only. We all know that cancer is curable in the early stage, before metastasis, and is incurable after that stage. We are constantly seeing nodules in the female breast, chronic erosions of the cervix and various skin lesions. These should all be considered malignant until proved not to be by careful microscopic study.

THINK OF 1. PULMONARY TUBERCULOSIS AND 2. CANCER OF THE STOMACH, in every case in which there is complaint of digestive symptoms over several months.

MASSIVE DOSES OF VIOSTEROL have produced, experimentally, heavy deposits of calcium in the kidneys of chickens.

ACUTE RETENTION OF URINE may be due to accumulation of blood behind an imperforate hymen.

HUMAN BEHAVIOR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

ANOTHER NULLIFICATIONIST

I have just voted for the repeal of the Eighteenth Amendment to the Constitution of the United States!

My vote was recorded in response to the subtended letter, all of which is interesting:

November 18, 1931.

Dear Doctor:

In accordance with resolution, given below, adopted at the Roanoke meeting of the Medical Society of Virginia, we will appreciate your marking, signing and returning the enclosed ballot at once. Stamped addressed envelope enclosed for your convenience.

Very truly yours,

AGNES V. EDWARDS,

Executive Secretary.

WHEREAS, There is no profession more deeply interested in the temperance and high moral standing of its own members, or in the temperance of the people as a whole, than the medical profession, nor has any other profession been so affected by the so-called *Prohibition Amendment*; Therefore, this resolution is presented to the Medical Society of Virginia calling for an expression by its members of their opinions on the repeal of the Eighteenth Amendment to the Constitution of the United States.

NOW, THEREFORE, BE IT RESOLVED:

1. That this Society favors the submission of this question to its members;

2. That the Secretary be and hereby is instructed to mail to each member of the Society before December 1st, 1931, a ballot printed under this resolution marked:

FOR

OR The Repeal of the Eighteenth Amendment.
AGAINST

ment.
to be marked and also signed by such member, for the purpose of evidencing his membership in the Society, together with a stamped envelope addressed to the Secretary of the Society to be mailed not later than December 1st, 1931.

3. That the Secretary of the Society forthwith tabulate the vote and forward the result thereof to the President of the Society and give the same to the Press.

Here is a statement of the Eighteenth Amendment to the Federal Constitution:

1: After one year from the ratification of this Article the manufacture, sale, or transportation of intoxicating liquors within, the importation thereof into, or the exportation thereof from the United States and all territory subject to the jurisdiction

thereof for beverage purposes is hereby prohibited.

2: The Congress and the several States shall have concurrent power to enforce this article by appropriate legislation.

3: This Article shall be inoperative unless it shall have been ratified as an amendment to the Constitution by the Legislatures of the several States, as provided in the Constitution, within seven years from the date of the submission hereof to the States by the Congress.

The above amendment was proposed to the Legislatures of the several States by the Congress on December 18, 1917, and, on January 29, 1919, the Secretary of State of the United States proclaimed its adoption by thirty-six States and declared the amendment in effect at midnight on January 16, 1920. Mississippi, by legislative enactment, was the first State to speak in approval of the amendment. Connecticut and Rhode Island are the only States that have never ratified the amendment.

The Volstead Act—national legislation making effective the Eighteenth Amendment—was adopted late in 1919, but the measure was vetoed by President Wilson, and immediately passed over his veto.

The history of anti-liquor legislation throughout the nation prior to the adoption of the Eighteenth Amendment is interesting. When ratification of the famous amendment was declared, six States of the Union were already "bone dry" by popular vote—Washington, Oregon, Montana, Colorado, Utah and Arizona. And six other States were already "bone dry" by legislative enactment. These States were Idaho, South Dakota, Nebraska, Kansas, Georgia and Florida. Eighteen other States had restrictive alcoholic legislation, but methods were provided by which alcohol could be obtained lawfully. These States were Alabama, Arkansas, Indiana, Iowa, Maine, Michigan, Mississippi, Nevada, New Hampshire, New Mexico, North Carolina, North Dakota, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia. The remaining eighteen States of the Union were wet. These States were Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Ohio, Kentucky, Illinois, Wisconsin, Minnesota, Missouri, Louisiana, Wyoming and California. These latter eighteen States had more than half the population of the United States.

All the "bone dry" laws of the States were adopted after the beginning of the World War in 1914.

An examination of the amendments to the Federal Constitution would seem to indicate that the controversial modification of that immortal legislative instrument were adopted during war times, when the emotions of the people were stirred. Certain it is that such amendments have lacked universal popularity and have been most difficult to enforce. These amendments are the expression of fanaticism and of hate.

The Fifteenth Amendment gave to the recently liberated slaves in the Southern States the right to vote. That amendment was submitted by the Congress to the several States early in 1869—when the white people in the South were helpless and the attitude of Congress was that of hatred of the white people who had been dominant in the South.

The Fourteenth Amendment, ratified in 1868, was, likewise, the expression of hatred and fanaticism. And the Thirteenth Amendment, ratified in 1865, was, likewise, directed against a helpless South by a victorious and malignant North.

The recently manumitted negroes were not competent to exercise the franchise. The majority of them are still without the requisite capacity to vote intelligently. The interpreters of the Constitution have, at last, reached that conclusion; but, as the negro is gradually acquiring fitness to exercise the franchise, he is being encouraged by his white neighbor to vote. Legislative enactment does not instantly create individual capacity nor change the public attitude.

There is a striking parallelism between the attitude towards slavery prior to the Civil War and the more recent attitude towards the use of alcohol as a beverage. Long before 1860 the defenders of slavery were on the defensive, and many people in the South were objecting to the system, and some of them were setting their slaves free. The spread of slavery was being restricted by legislative enactment. The system was doomed, and long before the present day slavery would probably have been abolished. The steam engine, the cog-wheel, the electric current, and all the other concomitants of industrialism were tending to make slavery economically impossible. A generation after the close of the Civil War the same forces were arrayed

against alcoholism. The inebriate and the drunkard were finding themselves unfit and out of place in the midst of whirring machinery, and they were confronted with the necessity of making a choice betwixt sober efficiency and starvation.

Slavery was a curse, not only because it was morally wrong and indefensible, but, also, because it occupied the public mind to the exclusion of all other topics. The statesmen of the ante-bellum period were kept in a state of such mental and emotional perturbation that they could think of nothing but slavery, and they could not think of that deliberately.

In the national mind and conscience whiskey has become the successor of slavery. The National Congress is now convening, candidates for the Presidency are about to be nominated, the country is economically disjointed, and the people—many of them—are unemployed and unhappy and in a dangerous state of mind. They stand in need of leadership and instruction, and of bread and meat, but they will be given instead senseless and endless harangues about whiskey and prohibition. The American citizen resents force, but he appreciates reason.

The Eighteenth Amendment is a failure. Good whiskey—if there be such a thing—has been replaced by bad whiskey. The national thought has become alcoholized. The respect of the people for their own legislative formulations has been lowered. The purpose of law is to make the public will effective. In order that they may continue to hold office many officials have probably become hypocrites and liars. Candor and courage have lost caste. To drink, or not to drink, is an individual matter, and neither temperance nor teetotalism can be brought about by the debates of the statesmen nor the denunciation of the ecclesiastics. The individual who gets drunk is either stupid or a fool, but of that he can not be convinced by statutory enactment, but only by education.

Wars are senseless, and most of the legislation arising out of war-time emotionalism is equally as senseless, and, therefore, futile, and, consequently, without character and long life.

It is established that *chemical* regulation of physiological changes is of importance comparable with *nervous* regulation.

GYNECOLOGY

CHAS. R. ROBINS, M.D., *Editor*, Richmond, Va.

ADJUVANTS TO GYNECOLOGICAL TREATMENT

It cannot be emphasized too frequently that, in the treatment of all diseases which come under the care of specialists, the patient must be considered as an entity and not merely as a collection of parts. We cannot say of gynecology, for instance, that the only concern of the gynecologist is in the organs of the pelvis. To adopt such a narrow view is to do the patient a gross injustice. It is comparatively easy to acquire from practice the ability to detect the various pathological conditions found there, but to establish the relation of cause and effect is quite a different thing. This can only be done when we have learned to evaluate the symptoms, physical disability and constitutional effect of the various conditions that may exist in the pelvis. We must then be able to connect these with the things complained of by the patient. In fact, to secure a true perspective, we must first study the patient in a general way and then make the gynecological examination the last thing. We may not always be able to say exactly what is the matter with the patient, but we should be able to say rather definitely that her disability does or does not arise from her pelvis. If the pelvis does not fully explain the symptom-complex, the patient should have such consultations as will clear up the points in question. Any surgeon or gynecologist will tell you that he gets his best results when he works in collaboration with a good medical man. It is always well to have competent help when needed for a diagnosis.

We have to consider all of the results that may arise from a common cause. Many women date their troubles from a delivery. We naturally think, under these circumstances, of lacerations, displacements, prolapses and infections. Often, however, the complaint will be loudest when none of these things are found, or even if found their correction may leave the patient complaining as before. Pregnancy is responsible for other things besides its effect on the pelvic organs. The relaxation of the abdomen, the stretching and impairment of the muscles of the perineum, impairment of the ligaments and musculature of the pelvis, and the relaxation of the sacro-iliac and other joints, may all play

an important part in the symptomatology. These conditions are often overlooked or their importance underestimated.

We have at hand a method of dealing with them that is so simple that it has not received the attention that its efficacy warrants. We refer to appropriate exercises. The most useful is the exercise directed to the development of the abdominal muscles. The patient lies flat on the floor on her back. She then raises the upper part of the body to the sitting position by muscular effort. This should be repeated from six to twelve times, and should be done once or twice daily. It has quite a remarkable effect. Deep breathing exercises should also be practiced for their general effect and for developing the diaphragm. Other exercises develop the perineal muscles. In fact the patient should be given a program of exercises that can be carried out in a consecutive way and that are adapted to the needs in her case. They only take a few minutes in the morning or at night. It would be a good idea for one to make a study of these exercises, because much can be done with them that cannot be accomplished by other means. They are particularly useful as adjuvants to operative or other treatment.

BRILLIANT GREEN AS AN ANTISEPTIC

(J. K. Narat, Chicago, in *Annals of Surgery*, Dec.)

A survey of the clinical results after the use of brilliant green as a local antiseptic in prophylaxis as well as in treatment of various surgical condition: shows that the substance possesses a high antiseptic value toward the most frequent pathogenic micro-organisms encountered in surgical diseases; it has an excellent power of penetration; it is non-irritant and non-toxic; it stimulates the formation of healthy granulation tissues and it is very cheap. The impression was gained that in many instances the substance was superior to other antiseptics in common use. These findings justify further clinical investigations as to the value of brilliant green and suggest the desirability of laboratory experiments in order to evaluate it as a general antiseptic.

PULMONARY TUBERCULOSIS COMPLICATING DIABETES MELLITUS

(H. B. Gotten, Memphis, in *Am. Rev. of Tub.*, Dec.)

Pulmonary tuberculosis complicating diabetes carries a mortality rate of over 50 per cent. in the first year after onset. These patients apparently have a lower state of resistance than the non-diabetics. However, with a careful course of treatment, embracing the use of insulin and a proper adjustment of diet for maintaining adequate nutrition, many can be restored to health.

INTERNAL MEDICINE

PAUL H. RINGER, M.D., *Editor*, Asheville, N. C.

THE MALARIA THERAPY OF NEUROSYPHILIS OTHER THAN UNCOMPLICATED DEMENTIA PARALYTICA

The treatment of dementia paralytica by inoculation with malaria is no longer new. In the *Journal of the A. M. A.* for November 28th, Drs. Udo J. Wile and Kenneth M. Davenport give a study of cases of neurosyphilis other than straight dementia paralytica treated by inoculation with malaria. The editor has made such free use of the text in abstracting this article that no quotation marks will be used.

Three types of patients were studied: those with frank tabes, those having dementia paralytica with tabes, and those with the diffuse type of syphilis of the central nervous system, including a small group in whom malaria treatment was started while they were in the secondary stage. Selection of patients was at times based on the fact that other methods of therapy had not been sufficiently productive of results; in other cases the malaria therapy was used as an adjuvant to other forms of therapy; in yet others the treatment was employed as a prophylactic measure with a view to giving the patient the benefit of all known forms of therapy to prevent later possible serious cerebrospinal accidents.

Inoculation was made intravenously, with from 2 to 10 c.c. of blood taken, if possible, from a patient at the height of a malarial paroxysm, this being repeated if needed. The disease was of the usual tertian type, occasionally taking on double tertian characteristics. The use of intravenous typhoid injections was occasionally resorted to; it was discovered in many cases that this served to hasten the onset of malarial paroxysms. The number of chills permitted depended to a great extent on the condition of the patient, but it has been the recent tendency to diminish the number of paroxysms. The first patients were given sixteen chills; of late, following the personal recommendation of Wagner von Jauregg, eight elevations have been considered the optimum. Quinine was then administered by mouth or intravenously, or by both means, until the paroxysms had been controlled; patients were then discharged with quinine for a three-month interval, as a rule

without treatment. The paper treats of immediately obtained results, supplemented by later observations on the patient as far as these could be made.

In many of the patients studied it was possible to observe immediate effects, which were in some cases beneficial, in others definitely detrimental. In the remainder there was no obvious change. In all groups lack of early therapy, or inadequate therapy, was evident. In a few cases, however, serious complications developed in the face of thorough early treatment.

Tabetic Group: In this group there were nineteen patients having frank tabes, eighteen men and one woman. In all these cases there were pupillary changes, some ataxia and diminished to absent reflexes. In two cases the tabetic type of pain was the predominant feature. In four, gastric crises were most complained of. Incontinence was noted in four patients. Three made complaint of impotence, a symptom which is not always inquired into. Two, while quite definitely tabetic, had hyperactive reflexes. Unusually marked ataxia was present in one and in another a Charcot joint. The serologic reactions were negative in seven of nineteen blood tests. The spinal fluid reactions did not correspond as a rule. The reactions were negative and doubtful on blood and spinal fluid in a case in which the signs of tabes, including definite gastric crises, were present.

The number of chills varied from three to nineteen, with an average of ten. The fever varied from one case which averaged 103° to two in which the chills averaged 106°. The mean was from 104 to 105°, mostly 105. Three patients showed liver symptoms during the malaria therapy; two were jaundiced, and one had merely an enlarged liver. These difficulties cleared up before the patients were discharged. One typically tabetic patient became confused during the treatment.

The immediate results of therapy were of considerable interest. Ten patients had symptomatic improvement. One of these gained 6 pounds (2.7 Kg.) In three, gastric crises were arrested. In two the ataxia was no longer a chief complaint. In one individual the incontinence was stopped. All ten testified as to the definite and immediate improvement they enjoyed. One showed absolutely no improvement, and one was definitely im-

paired by the fever therapy. The patient who became confused remained somewhat so up to the time of discharge.

Group of Dementia Paralytica with Tabes: In this group there were forty-five patients, two of whom were women. Early treatment was not given to twenty-six of the group; one had local therapy only; one had mercury rubs for a short time; four were given some sort of medication by mouth; eight had one, two or three injections of an arsenical, and of these apparently only one had received mercury. Only two patients had six injections; one had fifteen; one had fifty injections of neoarsphenamine; none of these had mercury or bismuth. One patient had what he termed "shots."

The original serologic tests on the blood of these individuals showed a stronger tendency toward positivity than the preceding group. It may be said in general that there was no especial relationship between the amount of positivity and the magnitude of the disease process. Thirty-eight blood tests were positive and seven were negative.

The number of chills induced varied from five to sixteen, with an average of eleven. The height of these varied from 103 to 107°; mostly 104 or 105. Untoward reactions during treatment were rather common in this group; one patient who had not previously complained of gastric crises developed serious ones; one had epileptiform seizures; one had delusions; two were unruly; two became maniacal, and one actually attempted suicide. In one the ataxia incontinence were made much worse. One patient developed purpura. These reactions, for the most part, subsided previous to the patient's discharge. In one patient, intravenous typhoid injections were required to stir up malarial paroxysms; in another the malaria was aborted after five chills, and the patient was then given three typhoid injections.

Fourteen of the patients improved symptomatically immediately following treatment. Eleven patients showed doubtful if any improvement. Ten were definitely worse; in eight of these the symptoms of dementia paralytica became more marked than before; in the other two the pains became worse. No definite opinion was expressed about the other ten patients.

Syphilis of the Central Nervous System (Diffuse Type): In this group there were

represented types of syphilis of the central nervous system that could not be classed definitely as tabes, dementia paralytica with tabes, or dementia paralytica. The cases include a group of six patients who were first examined in the secondary stage: a patient who showed a neurorecurrence together with recurrent secondary syphilides, and another who showed a neurorecurrence one month following apparent cerebrospinal negativity. Three patients had had epileptic seizures; one a hemiplegia; one an ulnar neuritis. The remaining cases were of the diffuse type, producing in some patients rather vague signs and symptoms, in others more definite ones, varying from mere hyperactive reflexes to definite palsies.

Of the thirty-two patients here considered, twenty-one were male and eleven female. The ages varied from 10 to 53, averaging 29. The duration of infection varied. Six cases were seen in the secondary stage; one was a recurrent secondary infection, coming on about a year after treatment; in one a neurorecurrence developed one month after thorough treatment of the primary stage. Four patients were dubious about the age of their infections, believing them to be six, eight, ten and twenty-seven years, respectively. The remainder of the group believed that infection had taken place from two to thirty years previously, with an average of nine years.

Early treatment was of interest in this as in other groups. In the six frank secondary cases, with one exception, treatment had not been given; in the other two early cases, thorough treatment had been given. Of the remaining patients, sixteen had received no treatment whatever. One received some sort of medication by mouth, doubtless pills of mercury. Three patients had received from one to three injections; five had received reasonably good treatment, which was nevertheless deficient in heavy metal therapy.

The blood test was found to be positive in thirty cases, doubtful in one, and negative in one case. The spinal fluid serologic reactions were found to be positive in thirty-one and doubtful in one case.

The number of paroxysms induced in this group varied from five to sixteen and averaged ten. Temperatures varied from 103 to 106°, the average as in other groups being 104 or 105. Icterus developed in two pa-

tients; two became somewhat anemic; three aborted the malaria; one developed an acute cardiac dilatation and treatment was stopped, and one patient, a juvenile, became incontinent.

LATER OBSERVATIONS

Tabetic Group: Of this group of nineteen, two have not returned. A report on two others is that they have improved, one to a marked degree, but the serologic data could not be obtained.

Five patients were seen from eighteen to thirty months after malaria therapy. One of these seemed unimproved. The remainder were doing exceedingly well; working, gaining weight and, in some cases, practically asymptomatic. Four patients were seen at the end of a year. One of these was definitely worse, particularly in regard to gastric crises; in fact, a sympathectomy was resorted to in an effort to control these. The other three patients had improved remarkably. The first showed no serologic changes. Six months after malaria therapy four patients were last seen and of these, one who had shown improvement immediately following therapy had become definitely worse. The other three showed marked improvement as to general well-being; they gained weight, were stronger, less ataxic and had fewer if any pains.

Group with Dementia Paralytica with Tabes: Of this group of forty-five, fourteen did not return. One of these died in an institution for the insane, while another died of an undetermined cause—deaths certainly not directly attributable to the malaria course.

Eighteen patients were seen from eighteen months to three years after malaria therapy. Of these five were asymptomatic. Six were definitely improved, but optic atrophy in one and ataxia in two were not improved. Another had occasional attacks of gastric crises, and the sixth was still somewhat euphoric. Three more cases were considered arrested. Three patients became definitely worse, and in two of these dementia paralytica became much more marked. Five patients returned after six months. All were definitely improved, and four of them were working. Two complained still of poor memory; one showed only slight improvement and one showed marked symptomatic improvement.

Good results were obtained in the group which was last seen three months after the

malaria treatment. Three of these cases were entirely asymptomatic; in two the condition was definitely improved; one was arrested, and in one the condition was definitely worse, there being a Charcot joint. There was in all cases a weight gain.

Syphilis of the Central Nervous System (Diffuse Type): Of this group of thirty-two patients, twenty-eight returned for examination. This includes the group of early cases, which are of particular interest and which will now receive especial consideration. At the end of one year, six of this group were entirely asymptomatic. Of the remaining patients in this group, seven returned for check-up examinations at the end of two years or more. Four of the cases had become asymptomatic; one patient showed improvement but complained of headache at times; one patient complained of slight incontinence; another case was asymptomatic but had signs.

Four patients were seen at the end of a year. In one, a congenital case, the signs and symptoms of cerebrospinal involvement had disappeared, together with improvement of an interstitial keratitis. The patient with hemiplegia falls in this group. At the end of six months, four patients were seen: two had become entirely asymptomatic, one showed an improvement, complaining of numbness and leg pains, and a fourth felt much better but was weak. Seven patients were last seen at the end of three months. Three cases were asymptomatic; one showed marked improvement; one epileptic patient was markedly improved but had an occasional attack; one who was otherwise normal, complained of pain in the precordium, the reason for which was not discoverable, and one case was asymptomatic without change in signs. In other words, all in this group improved.

Of the eight early cases in this group, six remained entirely negative; one showed recurrent mucous patches, without cerebrospinal symptoms—a most interesting observation—and the other, owing to lack of further treatment, showed neurorecurrence accompanied by lesions of the tertiary type. Epileptic seizures, which had immediately disappeared in three cases, returned in one but were less prominent and frequent, general improvement being evident. Nine cases became entirely asymptomatic; seven showed improvement of varying degrees; in one case headache per-

sisted, in others slight incontinence of urine, backache, and pain in the precordium, and in a patient with hereditary syphilis all symptoms of cerebrospinal origin improved, together with improvement of interstitial keratitis. In two, signs persisted but symptoms had disappeared; one only was unimproved and one made definitely worse. Gain in weight was again noted. Presumably, of those who were not re-examined some became worse. This group shows the most favorable results, as might well be expected, for the involvement was not as severe as that in the two preceding groups.

CONCLUSIONS

1. Malaria therapy was used in the treatment of tabes, of dementia paralytica with tabes, and of diffuse neurosyphilis, including cases complicating the secondary stage.

2. In a large percentage of cases, immediate improvement was noted. Thus, 53 per cent. of the tabetic group showed immediate improvement, and later observation increased this group to 67 per cent. In the greater number of these, improvement amounted to complete symptomatic remission. One patient showing immediate improvement relapsed later.

3. In patients with dementia paralytica with tabes, 40 per cent. showed immediate symptomatic improvement; later observation increased this figure to 67 per cent. Thirteen per cent. of the cases were arrested; 13 per cent. were made worse, and 7 per cent. of the patients died after leaving the hospital.

4. The immediate results were most striking in the diffuse central nervous system group. In the group complicating secondary syphilis, all eight were immediately improved; seven later remained asymptomatic, and one subsequently relapsed. In this case, recommended therapy was not carried out.

5. Twenty-four cases of later occurring diffuse neurosyphilis showed striking immediate improvement in all but one case. The later follow-up of this group showed improvement in 84 per cent., no change in 10 per cent. and a change for the worse in 6 per cent.

6. Ultimate gain in weight was an almost uniform feature, even in patients who did not otherwise improve.

7. Following treatment, many colloidal-gold curves became negative, reversed, or be-

came more or less intense without paralleling clinical results.

8. Reversal of the serologic reaction or diminution of its positivity occurred more often in the spinal fluid than in the blood in the group studied.

9. Decrease in cell counts and organic solids was almost invariably noted.

10. From the foregoing conclusions, it is apparent that malaria treatment is a definitely beneficial addition to the armamentarium of neurosyphilitic therapy.

A paper such as this is of particular value as indicating a broadening out of the therapeutic field comparable to the discovery of the beneficial effect of insulin in conditions other than diabetes, and of arsphenamine in conditions other than lues. The careful check-up of the patients lends authority to the statements made. All in all, it is a forward-looking article. Reprints can be had by addressing either of the authors at the University of Michigan Medical School, Ann Arbor.

DENTISTRY

W. M. ROBESY, D.D.S., *Editor*, Charlotte, N. C.

SOME ADVANCES IN DENTISTRY IN 1931

An acknowledged weakness of dentistry has been in its scientific side. The mechanical, the artistic, the clinical advancement has overshadowed the research, due to the lack of funds and educational facilities. Dentistry has had to lift itself by its own bootstraps and even today while the Committee on the Costs of Medical Care includes dentistry and the public includes dentistry as medical care, even Duke University makes no provision for the advancement of the science of dentistry, except as it may be swept along by the tide of medicine.

This is not a complaint but a statement of fact. As we review the literature of the year we can but be pleased with the advances that have been made along these lines. As one writer puts it, we do not need the M.D. degree but more knowledge of medicine. We do not need sacrifice the high standard of the art and mechanics of dentistry but develop research.

One of the year's advances in dentistry is the accentuation of the line of demarcation between medicine and dentistry and therefore more dental research. Cavities, pyorrhea and

focal infection from the standpoint of diet and nutrition and bacteriology have had definite contributions from the dental group.

Another advance is the clearing away of some of the buncombe in regard to dental preparations in coöperation with the A. M. A. by the Council of Dental Therapeutics. This group is patterned after and operates in connection with a similar group that has been in existence in the A. M. A. for several years.

A similar debunking process is being carried on in conjunction with the Bureau of Standards with dental materials and appliances.

Best of all, research is developing a group between clinical medicine and clinical dentistry that is the missing link; joining them without merging, permitting dentistry to advance in medical lines without injury to the mechanical or artistic; providing a language that permits better understanding.

The year as a whole has been one of consolidation, the passing of fads, the collapse of faulty thinking and a return to common sense.

Some physicians would make good bankers, and some dentists would make good physicians, and some physicians good dentists, but why make a mediocre banker-physician, dentist-physician or physician-dentist? The dentist needs more knowledge of medicine, and is striving for it, the physician needs more understanding of dentistry and is grasping it and both need more knowledge of economics, with no prospects of learning.

NURSING

HETTIE REINHARDT, R.N., *Editor*
Winston-Salem, N. C.

President North Carolina State Nurses' Association

SOME ADVANCES IN NURSING DURING 1931

The National League of Nursing Education has prepared a Standard Curriculum for Schools of Nursing which would prove of immeasurable value to all Superintendents of Hospitals and Superintendents of Nurses if they would study it and use the suggested outline as an ideal. In nursing education it is strongly predicted that quite revolutionary changes are forthcoming. We are steadfastly hoping that the result will be to nursing what the regulation and standardization of the medical education of some 25 or 30 years

ago was to the doctors. Broadminded, thinking people will welcome such a regulation of the nursing market. One has only to know of the oversupply of graduate nurses who are not able to support themselves by their profession to realize that there is a grave, radical wrong that must be righted. One root of the evil is that the profit for the hospitals, the general public and the individual has been in the production of the nurse crop, and not in the marketing. I wish that it were possible for everyone with interest or influence to read the strong convincing article entitled "Taking the Profit Out of Nursing Education," written by Dr. E. P. Lyon in the November issue of the *Modern Hospital*. He makes a true statement of facts, and suggests a possible remedy which would not be popularly accepted by all on its face value, but which deserves study and, at least modified, application.

North Carolina has recently made some advances in the better regulations of nursing, though these seem to be a mere beginning when one realizes the true conditions. The Legislature of 1931 changed the reading of the Nursing Law, which clarified it greatly, and will make it possible to materially regulate and control the profession in the future. The Standardization Committee for Schools of Nursing in North Carolina has worked long and faithfully, and has now a logical basis upon which to work. The law provides that no school of nursing accept students who are not graduates of a standard high school. This item in itself is a marked advance in education. The voluntary closing of several small schools of nursing that felt they could not meet the requirements has been gratifying. This helps to reduce the number of yearly graduates. No hospital has the moral right to turn out graduates unless they can reasonably expect for them a living wage. Much credit is due to our efficient Educational Director who visits each school yearly. A History of Nursing in North Carolina is in the hands of the publisher at the present time. The data have been painstaking compiled, and the nurses of our state are anxiously awaiting its completion. The president of the Southern Division of the American Nurses' Association, comprising 12 states, is a North Carolina nurse.

We are encouraged even in the face of an over-supply of nurses which necessarily results in unemployment, for there is no unfortunate condition that can be corrected until it is exposed to the light of public interest for betterment.

A MEMORIAL

to

Dr. Thompson Frazer

On Friday, October 9th, the news of the death of Dr. Thompson Frazer reached his friends and colleagues in Asheville. Though not at the time of his death a member of the Buncombe County Medical Society, yet he was so recently one of our active, earnest, respected, and most popular members, having been President of the Society in the year 1921, it is therefore with a sense of deep loss that the Buncombe County Medical Society hears the news of his untimely death.

Dr. Frazer was born in Buffalo in 1877, graduated from Princeton University in 1897, and in medicine from the College of Physicians and Surgeons, Columbia University, in 1901. He came to Asheville approximately twenty-five years ago, and spent practically his entire professional career in our midst, devoting his time to the specialty of diseases of the chest.

In spite of the handicap of health never too robust, he patriotically and early volunteered his services during the late war, was made a Major in the Medical Corps of the United States Army, and become Chief Medical Officer at Fort Bayard, New Mexico, from which place he was honorably discharged.

Dr. Frazer was a man of many gifts. His musical ability was unmatched; his genial and scintillating humor made him an ever popular and much sought-after speaker at dinners; his versatility in medicine was manifested by numerous publications on widely varying subjects, which engaged his interest in the specialty he followed; and he was loyal to the best traditions of our profession, and showed his interest in many societies by membership in the Southern Medical Association, the American Medical Association, the American Climatological and Clinical Association, the American Heart Association, the National Tuberculosis Association, in addition to the local county and state societies, and was a Fellow in the American College

of Physicians. To these all he gave of his time and talents liberally.

And so, in his passing, it seems fitting that some memorial to him should be spread upon the minutes of the Society which held him in such high regard over such a long period of time, and which deplores his passing from a field of usefulness, in which his talents and abilities offered him a wide scope for a useful and a brilliant career.

Respectfully,

Chas. Hartwell Cocke

J. Donald MacRae

Jos. Berry Greene

Miscellany

A Chapter in the Development of High-Class Pharmaceutics

(Abs. of article by Wm. A. Garry)

The business founded by Dr. E. R. Squibb will have been in existence for three quarters of a century, come 1933. Edward Squibb was born in Wilmington, Delaware, in 1819, and at the age of eighteen became apprenticed to a Philadelphia pharmacist. Five years later he entered Jefferson Medical College, obtaining his medical diploma in 1845. On his graduation he was offered the joint post of demonstrator of anatomy and librarian and curator of the Museum. He elected, instead, to practice medicine.

When the Mexican War came on he volunteered and was commissioned assistant surgeon and assigned to the U. S. Brig *Perry*. Later he served on the store ship *Erie* and on the *Cumberland*, seeing service in South American waters, the Mediterranean and many other parts of the world.

The assignment to the store ship marked a turning point in Dr. Squibb's life. Much earlier he had begun to work for the establishment of higher standards of purity and uniformity in drugs.

Anaesthesia was a chief concern. He was assigned to the Brooklyn Naval Hospital to organize a laboratory, and in the same year began to experiment in the manufacture of ether by steam heat. In the ensuing year Dr. Squibb made and discarded no less than fifteen stills. He made and scrapped five more before he was satisfied with the operation.

When ether purity had been brought to the standard set by Dr. Squibb and production

equalled naval and military demands, he turned to chloroform. He developed new processes for the manufacture of fluid extracts; he assayed opium, perfected the use of cocaine for use in operations.

The contributions to this laboratory by 1857 led to political maneuvers and the killing of the Congressional appropriation for the Naval Laboratory. Dr. Squibb resigned his commission and started, with the assistance of Dr. J. Lawrence Smith of Louisville, Kentucky, to build a plant for the manufacture of ether.

In 1858 he was asked by Dr. R. F. Satterlee, later Surgeon General of the Army, to return to the East and establish his own laboratory for the manufacture of anaesthetics and medicinal chemicals and drugs generally. The House of Squibb was established in that year. A worker dropped a bottle of ether and the ether thus released exploded. The first plant burned down before it had been in operation a year. In the fire, Dr. Squibb was so terribly burned that for many months his life was despaired of. Long before he had left the hospital, members of the medical profession had subscribed more than enough funds to build a new laboratory. They offered this fund as a gift; Dr. Squibb accepted it as a loan. This loan was fully paid off with interest.

In the Civil War emergency, Dr. Squibb was relieved by executive order of the necessity for making competitive bids. He was told to produce to the utmost at his own price.

Measured by present commercial standards, the growth of the business was slow, but that of the name was rapid. In 1860 Dr. Squibb was a member of the U. S. Pharmacopeia Revision Committee. He declined to serve on later committees, but he had much to do with the raising of official standards of quality.

When the founder died in 1900, the business was carried on by his sons, Dr. Edward H. and Charles F. Squibb.

In 1905, Theodore Weicker, for 15 years managing partner of Merck and Co., located at New York, joined with the late Lowell M. Palmer, a leading capitalist, to buy and preserve the name of E. R. Squibb & Sons.

During that fifteen years he had found time to study at Columbia University and to acquire two degrees—graduate in pharmacy

and graduate in pharmaceutical chemistry. He is now a member of the Columbia University College of Pharmacy, and for many years has been a Trustee thereof.

One bookkeeper handled all the office work of the House of Squibb when Theodore Weicker took over the company in 1905. One salesman handled all the direct contacts with the trade. The laboratory had about one hundred employees. Squibb quality standards had been conscientiously developed and maintained, but the business as such had received scant attention.

Educated abroad and in the United States, a traveler through many lands, linguist—commanding English, French, German and Spanish—Mr. Weicker had a liberal and practical education, a standard of cultured judgment and appreciation, rarely found then in men of affairs. He proposed to supply the need for commercial organization, and to conduct it on the high plane established by Dr. Squibb for his laboratory.

At the beginning of his career with the House of Squibb, most, if not all of the financial management had been taken off Mr. Weicker's hands by Lowell M. Palmer. The two men continued in a harmonious working teamship until the latter died in 1919. Then, Carleton H. Palmer, his son, returned from the war, and a new team was formed.

The Squibb Biological Laboratories and Research Laboratories at New Brunswick and the vast development of the manufacturing laboratories, both at Brooklyn, N. Y., and at New Brunswick, N. J., are but the physical evidences of the successful manner in which the standards and traditions of the House of Squibb have been maintained.

A few years ago, the House of Squibb received a letter from the Navy Department saying that someone had discovered a number of tins of Squibb ether, each can signed by Dr. Squibb and dated in the year 1862, and that on test the ether showed no sign of deterioration and was still in excellent condition for use.

"Backache can easily be prevented," says an advertisement. All that a man has to do, when his wife looks meaningly at the lawn, is to creep into the tool-shed and remove a vital part of the mower.
—*The Humorist*.

One million women are overweight—in round figures.

NEWS ITEMS

(Dr. Jas. K. Hall, Richmond, and Dr. L. B. McBrayer, Southern Pines, contribute regularly)

THE FIFTH DISTRICT (N. C.) MEDICAL SOCIETY, meeting at Sanatorium, October 21st, elected Dr. R. L. Pittman of Fayetteville, president. Dr. D. S. Currie of Parkton was re-elected secretary and treasurer.

Taking part in the program were: Dr. G. G. Chiles, of Sanford; Dr. O. L. Miller, of Gastonia; Dr. P. P. McCain and Dr. C. D. Thomas, of Sanatorium, and Dr. J. B. Wright, president-elect of the State Medical Society. Discussion by Dr. H. M. Baker, Lumberton; Dr. J. F. Highsmith, jr., Fayetteville, and Dr. Reeves, professor of Roentgenology at Duke University.

THE MECKLENBURG COUNTY (N. C.) MEDICAL SOCIETY, November 3rd, Charlotte. Program: Summary of Brain and Cord Lesions, Dr. A. A. Barron; Pernicious Anemia, Dr. P. M. King; Broken Neck with Recovery, Dr. J. S. Gaul. Nov. 17th, Program: Treatment of Paresis by High-frequency Currents, Dr. J. R. Alexander; Manic Depressive Insanity, Dr. William Allan.

MECKLENBURG COUNTY MEDICAL SOCIETY meeting, December 1st, at Charlotte, heard Dr. William Allan on Dementia Praecox, and Dr. T. C. Bost on Pancreatic Lithiasis with Case Report. This was reported as the 28th case of stone formation in the pancreas on record.

Officers chosen: Dr. Raymond Thompson, President; Dr. C. N. Peeler, Vice-president; Dr. R. B. McKnight (re-), Secretary-treasurer.

The regular monthly meeting of the PITT COUNTY (N. C.) MEDICAL SOCIETY was held Nov. 12th, at Grimesland, at which time the members were guests of Dr. W. H. Drewry and Dr. Garrington at an oyster roast.

Two members of the dental department of the State Board of Health spoke on the dental clinics in the county, and Dr. R. C. McGeachy on the tuberculosis clinic.

IREDELL-ALEXANDER MEDICAL SOCIETY officers for 1932 are: President, Dr. Jas. W. Davis, Statesville; Vice-President, Dr. G. T.

Mitchell, Jennings; Secretary, Dr. Chas. B. Herman, Statesville; Delegates, Drs. M. R. Adams and Dr. Chas. B. Herman, Statesville.

BUNCOMBE COUNTY MEDICAL SOCIETY meeting at Asheville, December 9th, heard Dr. J. W. Huston, on Rest Therapy in Pulmonary Tuberculosis. Discussion opened by Dr. W. P. Herbert.

FORSYTH COUNTY MEDICAL SOCIETY's new officers are: President, Dr. E. A. Lockett; Vice-Presidents, Dr. E. S. Thompson and Dr. J. P. Rousseau; Secretary, Dr. J. R. Hege. Delegates to State Society, Drs. A. DeT. Valk, R. L. Wall and W. M. Johnson.

V-C Section A. C. S., Greensboro, January 28th and 29th. The executive committee is composed of Dr. C. W. Banner, Greensboro, chairman; Dr. J. W. Tankersley, of Greensboro, secretary; Dr. Robert T. Ferguson, of Charlotte, counselor.

Dr. Archibald E. Baker, Charleston, is chairman of the executive committee for South Carolina, other members Dr. Robert E. Abell, Chester, and Dr. George T. Tyler, jr., Greenville. Dr. Clarence P. Jones, of Newport News, heads the executive committee in Virginia. Dr. Carrington Williams, of Richmond, and Southgate Leigh, of Norfolk.

THE STAFF OF THE GILL MEMORIAL EYE, EAR AND THROAT HOSPITAL announces to the profession the Sixth Annual Spring Graduate Course in Ophthalmology, Otology, Rhinology, Laryngology, Facio-Maxillary Surgery, Oral Surgery, Bronchoscopy and Esophagoscopy, April 4th to 9th, 1932. The class is strictly limited and the members are registered in order in which the matriculation fee is received. We emphasize the personal contact of the student with the instructors. Round table discussions are held daily.

The Faculty—Guest Members: Edward H. Cary, M.D., President-Elect of the A. A. M., Dallas, Texas; L. W. Dean, M.D., St. Louis; Wells P. Eagleton, M.D., Newark, N. J.; Arthur J. Bedell, M.D., Albany, N. Y.; Matthew S. Ersner, M.D., Philadelphia; Lee M. Hurd, M.D., New York City; Guy R. Harrison, M.D., Richmond, Va.; Webb W. Weeks, M.D., New York City;

Jonas S. Friedenwald, M.D., Baltimore; Major George R. Callender, Washington; E. A. Forshey, Southbridge, Mass.

Resident Members: Elbyrne G. Gill, M.D., John A. Pilcher, M.D., Booker Lee, M.D., C. L. Crump, M.D.

THE NORTH CAROLINA PEDIATRIC SOCIETY was organized at a meeting of pediatricians of the State held at Duke University, Nov. 13th. Dr. Yates W. Faison, Charlotte, was chosen president and Dr. E. K. McLean, of the same city, secretary.

AN ORTHOPEDIC CLINIC for Tarboro has been endorsed by the Tarboro Rotary Club and Junior Order. DR. JULIAN BAKER presented the cause to the Rotarians.

WASHINGTON HOSPITAL, INC., has been reorganized and is to be known as Tayloe Hospital, Inc. Under the new organization it will be operated by a corporation under lease from Dr. D. T. Tayloe, so as to secure Duke endowment aid.

Two hundred and forty-one additions were made to the list of registered nurses in North Carolina following examinations held at Raleigh in October.

BOICE SEABOARD PRESIDENT
(No Connection with the Railroad)

Dr. Edmond S. Boice, of Rocky Mount, N. C., was elected president of the Seaboard Medical Association at the closing session of a three-day convention at Suffolk, Va.

Rocky Mount will entertain the association next year.

Other officers elected were: Dr. O. R. Yates, of Suffolk, first vice-president; Dr. Paul F. Whitaker, Kinston, N. C., second vice-president; Dr. J. E. Marable, Newport News, third vice-president; Dr. W. I. Wooten, Kinston, fourth vice-president; Dr. Clarence Porter Jones (re-elected), of Newport News, secretary, and Dr. A. M. Burfoot (re-elected), Fentress, Va., treasurer.

DR. REID WHITE, 64, Lexington, Va., died at his home after an illness of more than two years.

Dr. White had served on the town council,

was a director in the First National Bank, served in the army with the rank of major during the World War. He was graduated from Washington and Lee University, and in Medicine from the University of Pennsylvania, class of '92.

Among the survivors are Dr. Preston White of Charlotte, N. C., and Dr. Reid White, jr., of Lexington.

The Richmond *News-Leader* of November 30th paid Dr. White this tribute:

Not least among the charms of the Old Dominion is a diversity of local tradition on the same friendly pattern. Norfolk, Petersburg, Fredericksburg, Alexandria, Winchester, Richmond—all these are Virginian in common impulse, yet each of them has its one best local type, as different as brothers ought ever to be.

The Lexington tradition is as distinctive as any. With its background of pioneer Scotch Presbyterians, hard-working and god-fearing, with its cultural associations, gathered about generations of college professors; with its memories of Jackson and Maury at V. M. I., and of Lee at Washington College; with veterans of the Rockbridge Artillery walking its streets, where is a more interesting type of Virginian to be found? And where among all the sons of Lexington was one who more splendidly exemplified her best in blood, in intellect, in service and in social charm than Dr. Reid White, who died yesterday? In him Lexington was incarnate, and that is tribute enough for any man.

DR. STUART MCGUIRE, of Richmond, was rendered unconscious by a blow from the rear as he was returning from a call on a friend, the evening of November 29th. His dog and an approaching automobile scared off his assailant, and Dr. McGuire said he was uninjured save for a bump on his head.

DR. AND MRS. WARREN T. VAUGHAN, of Richmond, have returned home after having spent several weeks in England and on the Continent.

DR. AUGUSTINE WASHINGTON TUCKER of the staff of St. Luke's Hospital, Shanghai, China, spent a few days in this month with his brother, the Rev. Beverley D. Tucker,

jr., Richmond, and with his father-in-law, the Rt. Rev. Joseph B. Cheshire, Raleigh.

DR. AND MRS. C. C. COLEMAN have returned to their home in Ginter Park after spending several days in St. Louis, where Dr. Coleman attended the meeting of the American Radiological Society.

DR. SAMUEL S. COTTRELL, a native of Richmond, has been appointed chief executive officer of the Boston Psychopathic Hospital, Boston, Mass.

DR. P. K. GRAYBILL, 51 (M. C. V. '03), died December 4th at his home at Fincastle, Va. He had been in ill health for twelve years. For many years he was a practicing physician in Botetourt County.

DR. DAVIS FURMAN, Greenville, S. C. (Univ. Md., '82), died early in December. Dr. Furman had served as president of the South Carolina Medical Association and of the Tri-State Medical Association, had contributed widely to medical literature, particularly of the subject of Pellagra which he had studied extensively at home and in foreign countries, and was a wise and valued medical leader.

DR. L. J. MARSHALL, 50 (Balti. Med., '00), Broadway, Va., died at a Harrisonburg hospital November 2rd, from injuries received the day before when his automobile plumed over an embankment on the Spotswood Trail, near the top of the Blue Ridge Mountains.

DR. DALLAS BANCROFT ZOLLIFFER, 80 (P. & S. Balti., '81), died at his Weldon, N. C., home November 23rd, following an illness of three weeks.

DR. R. T. JENNINGS, Columbia (Sewanee, '98), died November 20th, from injuries received in an automobile accident near Cheraw November 19th.

DR. R. D. McMILLAN, Red Springs, N. C., is making steady progress on his rest cure, and is expected back with his patients in the near future.

DR. EDWARD R. MICHAUX (New York Univ., '89), one of the oldest and most highly

Montague Hospital

Exclusively for
RECTAL
and
COLONIC
AILMENTS

*Offering special
facilities for the
diagnosis and
treatment of rec-
tal and colonic
diseases.*

36th St. East of
Lexington Ave.

New York
City



PHYSICIAN, Graduate of the University of Pennsylvania, would like to become associated with a busy man. If desired I would take post-graduate work to fit myself for any special work my associate would like. Could make some investment if necessary. Am a tireless worker, tactful and of good and pleasing personality. If interested write me for an interview.

Address PHYSICIAN, care this Journal.

regarded physicians of North Carolina, died at his Greensboro home Dec. 2nd.

An oil painting of the late EDWARD VERNON HOWELL, who established the School of Pharmacy at the University of North Carolina, and was its dean until his death this year, has been presented the pharmacy school by J. Edward Lurray of Baltimore. Mr. Murray was graduated from the pharmacy school with the class of 1910.

DR. G. BLYTHE MORRIS, 46, physician on the staff of the State Hospital for the Negro Insane, Goldsboro, N. C., died Nov. 15th following a long illness.

DR. C. W. DURHAM has opened offices at 308½ South Elm Street, Greensboro.

DR. CHARLES E. DOWMAN, Atlanta, first surgeon in the South to limit his field to the nervous system, died Nov. 14th, after a long illness.

DR. IVAN M. PROCTER, Raleigh, has been awarded the certificate of the American Board of Obstetrics and Gynecology, Walter T. Dannereuther, M.D., *president*, Paul Titus, M.D., *secretary*.

DR. W. A. MCPHAUL, city-county health officer of Charlotte, attended the annual meeting of the Southern Medical Association.

MARRIED

Dr. Robert H. Hackler, jr. (N. C.-Jefferson), Asheville, N C., and Miss Harriet Bates, Richmond, Va., November 20th.

Our Medical Schools

UNIVERSITY OF VIRGINIA

Dr. C. S. Lentz, Superintendent of the University Hospital, attended the meetings of the American Hospital Association in Toronto, from September 28th to October 2nd.

Surgeon General Hugh S. Cumming, Dr. Karl Voegthin, and Dr. William C. White visited the Medical school on October 14th and 15th.

The eighth post-graduate clinic conducted by members of the medical staff was held at the University Hospital on October 22nd and 23rd. Forty-five physicians were in attendance.

Dr. Eugene L. Opie, Director of the Pathological Laboratory of the Henry Phipps Institute in Philadelphia, delivered the first of a series of Alpha Omega Alpha medical lectures on the afternoon of November 9th. The title of the lecture was Tuberculosis.

Dr. Frederick F. Russell, Director of the International Health Division of the Rockefeller Foundation, and Dr. Frederick M. McPhedran of the Henry Phipps Institute of the University of Pennsylvania, visited the Medical School on November 9th and 10th.

Dr. E. K. Marshall, Professor of Physiology at the Johns Hopkins Medical School, spoke before the University Medical Society

on the evening of November 9th on the subject of Renal Function.

On November 20th Dr. Kenneth Maxcy gave a lecture at the Army Medical School in Washington on the subject of Typhus.

The following members of the Medical Faculty attended the meetings of the Southern Medical Association in New Orleans from November 18th to 20th: Drs. Royster, Goodwin, Lehman, Smith, Archer, Wood, and Woodward. Dr. William H. Goodwin gave a paper on Endometriosis; Dr. J. Edwin Wood on Treatment of Heart Block with especial reference to the use of Ephedrine Sulphate; and Dr. Vincent W. Archer on The Use of Roentgenograph in Undergraduate Teaching. As Chairman of the Section on Ophthalmology and Otolaryngology, Dr. Fletcher D. Woodward gave a Survey of Otolaryngology.

Dr. Lawrence T. Royster was chairman of the sub-committee on The Medical Care of Children for the Governor's Child Welfare Conference held in Richmond on November 24th. Dr. W. W. Waddell read a paper on The Hospital and the Sick Child; Dr. Kenneth Maxcy on Prevention of Communicable Diseases; Dr. D. C. Wilson on Need for Research on Mental Hygiene.

Dean J. C. Flippin attended the meetings of The Association of American Medical Colleges in New Orleans from November 30th to December 2nd.

At the meeting of the University of Virginia Medical Society on November 7th, Dr. C. C. Speidel gave an account of his Studies of Living Nerve Sprouts; Dr. L. S. Meriwether spoke on Medulloblastomas; and Dr. Paul Kells described A Case of Acute Myelitis.

DUKE

On November 4th, Dr. R. W. Hegner, of The Johns Hopkins School of Hygiene, lectured at the Duke Hospital on Parasitology.

On November 11th, Dr. Louis B. Wilson, Director of the Mayo Foundation, addressed the Duke medical students and staff.

On November 13th, Dr. Eugene F. DuBois, Professor of Medicine at Cornell University School of Medicine, gave a clinic on Metabolic Factors in Hyperthyroidism and Ty-

phoid Fever at the Duke Hospital.

At a meeting of North Carolina pediatricians, held at the Duke Hospital on the afternoon of November 13th, the North Carolina Pediatric Society was organized.

The regular meeting of the Durham-Orange County Medical Society was held on the same date at the Duke Hospital and Dr. J. C. Gittings, Professor of Pediatrics at the University of Pennsylvania School of Medicine, spoke on Tuberculosis in Childhood. Dr. Gittings also gave a clinic on the morning of the 14th.

WAKE FOREST

Dr. Thurman D. Kitchin had as his Thanksgiving guest Dr. Ross V. Patterson, dean of Jefferson Medical College. They left Sunday morning for New Orleans to attend the meeting of the Association of American Medical Colleges. On his return, Dr. Kitchin will stop over in Montgomery to attend the meeting of the Southern Association of Secondary Schools and Colleges.

The William Edgar Marshall Medical Society had as its guest-speaker on December 11th Dr. Charles Mayo of the Mayo Clinic.

Dr. Coy C. Carpenter, professor of pathology, and Dr. Nevill Isbell of the chemistry department have just completed a study of solutions used for intravenous administration at Rex Hospital at Raleigh.

Dr. George Mackie, professor of physiology, and Dr. E. S. King, professor of bacteriology, spent the Thanksgiving vacation at their former homes with friends and relatives.

MEDICAL COLLEGE OF VIRGINIA

Dr. Harry Bear, Dean of the School of Dentistry, spent two months during the past summer in Europe. Dr. Bear read a paper in Paris at the meeting of the International Dental Congress. While abroad he visited the dental schools in Paris; Heidelberg and Bonn, Germany; Brussels, Belgium; Zurich, Switzerland; Utrecht, Holland, and London.

Dr. W. Tyler Haynes, instructor in orthodontia, attended the meeting of the International Orthodontia Congress held in London, the latter part of July.

Dr. Charles R. Robins, jr., Richmond, '29, returned home the middle of March, after studying at the University of Prague, and in Vienna, Berlin, Paris and Budapest. He has

received a fellowship course at the Mayo Clinic.

Dr. Karl S. Blackwell ('06) has been named president of the Metropolitan Board of the Young Men's Christian Association of Richmond, Va.

Dr. Thomas N. Spessard ('27), after spending two years at the Neurological Institute of New York, studying neurology and neurosurgery, has located in Roanoke, Va., with offices in the Medical Arts Building. Dr. Spessard is limiting his practice to neurology and neurosurgery.

Dr. Archer A. Wilson ('23) has just opened offices in the Professional Building, Charleston, W. Va., for the practice of neurology and neurological surgery.

Dr. Barton B. McCluer ('12), for some time at Bon Air, Va., is now located at Rockbridge Baths, Va.

Dr. Herman F. Oppleman ('30), who recently completed his residency at St. Vincent's Hospital, Norfolk, Va., has located at 2222 West Grace Street, Richmond.

Dr. F. J. Wampler, who was on leave to make a survey of certain medical facilities of India last year, has returned to his work here as professor of preventive medicine this year.

Dr. Lee S. Sutton, jr., of Richmond, represented the college at the recent meeting of the Association of American Medical Colleges at New Orleans.

The library has been enriched by a gift of approximately 100 books of historical value given to the college by the trustees of the Valentine Museum. Several of the books were at one time in the private collection of Dr. Augustus Warner, one of the founders of the College.

A volume of unusual interest is in manuscript and is the text of a series of lectures given about the middle of the eighteenth century by Dr. Alexander Monro of Edinburgh, on "The History of Anatomy From Ancient Times." The manuscript is dated 1745 and is a beautiful example of handwriting. It is arranged in the format of printed books and is indexed.

This manuscript volume is handsomely bound and was at one time the property of Dr. William Foushee, a leading physician and citizen here in the earlier decades of the last century.

The college has more alumni practicing medicine in the districts outside of the incorporated cities than two years ago, despite

the losses by death during the period. The same can be said for the University of Virginia department of medicine, as shown in the recently published directory of the American Medical Association. A large number of our best men in the last several years have been taking up practice in the smaller towns and villages.

Dr. Cary T. Grayson, admiral U. S. Navy, retired, delivered the address when Founders' Day exercises in observance of the ninety-fourth session were held December 1st. Taking as his theme, "The Modern Trend of Medicine." The exercises were preceded by an academic procession in which the members of the board of visitors, the college faculty, and student body took part and were attended by an assemblage that filled the auditorium.

BOOK REVIEWS

ESSENTIALS OF PSYCHIATRY, by GEORGE W. HENRY, A.B., M.D., Assistant Professor of Psychiatry, Cornell Medical School, New York; Director of Psychiatric Clinic, New York Hospital; Director Clinical Research, Bloomingdale Hospital, White Plains, N. Y., with a chapter on Psychiatric Nursing by ADELE POSTON, R.N., Former Directress of Nursing, Bloomingdale Hospital, White Plains, New York. *Williams and Wilkins Co.*, Baltimore, 1931. \$4.00.

The introductory chapter covers well the subject of personality development and thus gives a foundation which makes possible the clear understanding of the fundamentals of this important subject. All the way through runs the thread: the functions latest to develop are ones most easily disturbed. The classification given is understandable to any inquiring reader. Differentiation is made of cases as actually come up for management, not after a hard-and-fast fashion as though every case were typical and sharply contrasted with every case coming under some other classification.

Particularly useful is the information given in the chapters on psychopathology of the normal, mental hygiene, psychiatric social service and psychiatry in general hospital practice.

We have waited long for just this sort of book. We welcome and heartily recommend to every doctor a book which gives the knowledge of today on mental disorders in

words which have meanings. The author's mind not being confused, he finds no difficulty in putting his knowledge and his thoughts into plain language. For doctors generally who are seeking light in this murky domain, here it is.

THE THYROID AND MANGANESE TREATMENT: Its History, Progress and Possibilities, by HERBERT W. NOTT, M.R.C.S., L.R.C.P. *William Heinemann*, London, 1931. 7 shillings/6 pence, net.

An astonishing account of the result of treatment of a great variety of disease conditions by the synchronous administration of thyroid by mouth and potassium permanganate by rectum. In some cases the permanganate is given by mouth. A good part of the book is reprinted from the *British Medical Journal* and some others. The author is convinced that these remedies are too little used and that their use in a wide field, and in conditions not commonly thought of as having and special thyroid relation, will prove highly gratifying to patients and their doctors.

In all probability PERNICIOUS ANEMIA is a combination of a deficiency disease and a lack of a gastric hormone.—Moschowitz.

Symptoms which have caused the removal of thousands of ovaries can frequently be relieved by treatment directed to HYPO-OVARIAN function.

A case of TULAREMIA OF THE EYE is reported by Huey of Anniston in the Nov. issue of the *Jl. of Ala. Med. Assn.* In atypical cases think of tularemia.

An Act of the Legislature of ALABAMA approved by the Governor March 9th, 1931, EXEMPTS from payment of occupational taxes (State, county or municipal) veterans of the World War and Spanish-American War, disabled 10 per cent. or more.

This is a good time to survey the situation, weigh the evidence, and find out how many old, reliable cheap drugs are just as good as high-priced, latest-wrinkle products. For one, ask about brilliant green.

"Thanks for the lift," said she, as she climbed from the plastic surgeon's chair.—*Judge*.

Clinical Physiology Note

FREDERICK R. TAYLOR, M.D., High Point, N. C.

BACK TO BREAD

It is rare that we take for a model of scientific discussion a commercial pamphlet, but the mail brought us such an excellent discussion of white bread by Dr. D. C. Loc-head in the form of a reprint of an address before the annual convention of the Millers' National Federation in Chicago last May, distributed by the National Soft Wheat Millers' Association, that we wish to call attention to it at this time.

The address shows very keen common sense, and common sense is one of the most uncommon things in existence, especially in reports sent out by commercial interests. It discusses a number of points—vitamin quacks, freak diets, the development of white bread, refined wheat flour, the lack of digestion or assimilation in its entirety of whole wheat, the abundance of vitamins in foods other than bread, which should of course be eaten in any properly balanced diet, some interesting facts about bran, a general attack on all kinds of hokey in food advertising and quack diets, the harm resulting from an unnatural effort to achieve slenderness, and a discussion of the cause of the wheat surplus.

A few quotations from this pamphlet follow.

"Bread, next to milk, is the most important single article of food that is available."

"No food is a perfect food. No food contains all the necessary food constituents. If bread were our only article of diet, then we would lack some of the necessary food constituents, and we would lack them almost as much if whole wheat bread only was used. Bread is our chief source of carbohydrate food, and white bread is the easiest and best and cheapest food material to supply that constituent of our diet. Let us get our other necessary food constituents from other sources, such as milk, leafy vegetables and fruits."

"Wheat kept dry will keep for long periods—from year to year; and milled it will keep as long as practically necessary, providing the germ part is removed during the milling—whole-wheat flour will not keep long and readily spoils when made into bread."

"The most progressive races, those most sound in mind and body, have voluntarily selected white bread as their main diet by the exercise of natural biologic laws, which react against the coarse breads in favor of the more digestible white bread.

"Supposing those sincere souls who are afraid that refining and making flour products more palatable, and those back-to-nature cranks, and those food-fad quacks were right and white bread lacks necessary food constituents and we didn't eat whole-wheat bread, what would happen? We have been doing just that many years now—what has happened? Just about absolutely nothing.

"We are not a nation, nor is there any part of our nation, which subsists on a one-food diet."

Under the heading "Facts about Bran", is given a summary of the replies to a questionnaire sent out to physicians all over the United States by the Public Health Education Committee of the Minnesota State Medical Society, including replies from many of the ablest physicians and teachers of medicine in the country, as well as from less distinguished individuals. There are many interesting points in this summary, some of which are mentioned here.

"Forty per cent. of the physicians said they never prescribed bran, 34 per cent. prescribed it only occasionally. Similarly, 28 per cent. do not prescribe whole-wheat bread, and 29 per cent. prescribe it occasionally. Fifty-seven per cent., when they do prescribe whole wheat, do so because they wish to add roughage to the diet, and 41 per cent. prescribe it mainly for its vitamin content. There is, of course, some overlapping in the two groups; i.e., some men prescribe it for both reasons.

"A surprisingly large number of physicians expressed themselves as being strongly opposed to the use of bran. For instance, a president of the American Medical Association (an experienced gastroenterologist) wrote: 'For ten years I have not permitted the use of bran in any family under my direction.' And three-fourths of the physicians have observed that bran will produce indigestion and flatulence."

"A professor of medicine at Harvard wrote on the back of his blank that he had never seen adults with definite vitamin deficiency, 'unless pernicious anemia is included, and unless pellagra is later proved to be due to a vitamin deficiency.'"

"As was to be expected, many physicians noted that when they do see vitamin deficiency diseases, they see them in the very poor, or in the semi-insane, in cranks and faddists who live on freak diets, in those who are inclined to live on alcohol, in persons with anorexia nervosa, in old persons who live alone, in women who try to reduce unwisely, and in persons who live for a long time on restricted diets designed to cure ulcer, nephritis, or diabetes."

"Almost all agree that the present propaganda for the addition of roughage to the diet has been more harmful than beneficial."

"By direction of Secretary Hyde, specialists of the

United States Department of Agriculture, after consultation with five nationally known authorities on nutrition problems, reported:

"No person subsists on one food. Each food should be chosen in relation to the other constituents of the diet. Bread, either white or whole-wheat, is always an economical source of energy and protein in any diet. The form may be felt to the choice of the individual when the remainder of the diet is so constituted as to contribute the necessary minerals, vitamins and any necessary roughage."

"Unfortunately, the idea that whole-wheat bread contains more nourishment than white bread received encouragement in the past from many people who are supposed to know, even authorities, until now some physicians, most qualified dietitians, home economic instructors and school teachers generally, are spreading vicious propaganda unknowingly even through the use of official textbooks; while amateur dietitians, laymen having something to sell, faddists and cranks who possess neither judgment nor adequate information, have fostered and promulgated ideas definitely detrimental to the public health, even sending out field workers or salesmen to mothers' clubs, parents and teachers' associations, schools, etc., to sell their high-priced patented so-called health foods and preaching the gospel that white bread is poisonous."

"Frequently food faddists in their enthusiasm cry for more roughage and more vitamins at the same time, and exalt as their remedy whole wheat bread, forgetting that if whole wheat bread is more valuable because it contains vitamins and roughage, that the roughage hurries the food material through the intestinal tract undigested and unabsorbed, so that the vitamin content is lost."

Secretary Hyde is quoted as saying:

"While the American woman is trying to lose her waist line, the farmer is losing his shirt"! The fad of slimness, together with the ridiculous idea that bread is fattening (*isn't it?*!) has materially reduced the consumption of bread because it is one of the first things a reduced cuts out."

Quoting Arnold Wald of Chicago, the pamphlet states,

"If Americans ate as much bread per capita as they did before the war, 125,000,000 additional bushels of wheat would be consumed." The pamphlet also states that the per capita consumption of wheat in this country has decreased 25 per cent. in the last 40 years, and 16 per cent. in the last ten years.

"The use of the word health in connection with foods constitutes a misbranding under the Foods and Drugs Act, according to Paul B. Dunbar, Assistant Chief, Food, Drug and Insecticide Administration, U. S. Department of Agriculture."

The final punch is put into the message of the pamphlet by quoting certain resolutions passed by the Hennepin County Medical Society, Feb. 4th, 1929, and endorsed May 13th, 1929 by the Minnesota State Medical Association; and a similar one passed by the Indiana State Medical Association January 14th, 1930, as follows:

"Whereas: Much misinformation is promulgated today concerning the question of diets, thus causing the introduction of food fads, very few of which can take the place of the older staple foods; and whereas,

"Any balanced diet should contain animal protein, fruits, vegetables, especially the leafy vegetables, and the better grades of bread prepared from flour which will insure adequate vitamin and mineral salt content, digestible fat such as butter fat, and sufficient of the digestible carbohydrates to afford readily available energy; and whereas,

"The allegation that white bread, meat, or any other staple food, when employed in mixed diet is responsible for certain grave illnesses, is not supported by scientific facts.

"Therefore, be it resolved that: We desire, in public interest, to place on record that in our opinion:

1. The exaggerated claims for various fad foods are unwarranted by scientific evidence or practical experience; and the advertising and other propaganda furthering their substitution for the older articles of diet should be condemned.

"2. The danger of nutritional deficiencies has been grossly exaggerated. No one food is a perfect food; but a diet consisting of dairy products, leafy vegetables, fruits, meats, and easily digested starches furnishes an excess of all food factors necessary for proper growth and nutrition and resistance to disease.

"3. Any variation from a normal diet should be prescribed only by a properly trained physician after a careful study of the dietary requirements of the individual seeking advice."

The above quotations seem to us to give the essential points of the pamphlet, but the whole pamphlet is worthy of study. It can be obtained on request from the

NATIONAL SOFT WHEAT MILLERS' ASSOCIATION
1007 Independent Life Bldg., Nashville, Tenn.

There are a few things in the pamphlet to which take exception in a minor way, but nothing of real importance. Perhaps the most exceptionable statement is not due to the pamphlet itself, but merely a datum of the questionnaire replies, that "8 per cent. of the physicians remembered having seen cases in

which they thought cancer of the bowel might have developed as the result of the indigestion of bran." We do not understand how such a relationship of cause and effect could be observed or substantiated, and our judgment would be at variance with the judgment of the 8 per cent., and in accord with the presumable judgment of the 92 per cent. who had not observed such cases. There are enough sins that may properly be laid at the door of bran faddists without dragging in that great Sphinx, cancer.

A COLOR CHANGE which makes you *think* of sugar in urine may be due to alkaptone. Rule it out.

CHUCKLES

In the course of the trial the judge turned to the negro woman on the stand and asked:

"How old are you?"

"I'se seventy-three, judge."

"Are you sure?"

"Yess, suh."

"Mandy, you don't look seventy-three."

"I'se sure, judge."

After a few moments the trial was interrupted by Mandy.

"Judge, I'se mistaken about my age being seventy-three; that's my bust measure, suh."—*Cheese and Crackers*.

The young doctor was much relieved to secure a position on the staff of a hospital for the insane. He intended to specialize in mental diseases, and the salary guaranteed him against want. He worked hard to make friends of the inmates. Some weeks later when a patient said to him, "Doctor, all of us like you much better than the last doctor we had," his pleasure was reflected in his query:

"Indeed. How's that?"

"Well," beamed his new friend, "you're so much more like one of us."—*Neb. State Med. Jour.*

How, Now?

Shc—I ought to have done better than to marry you.

He—Well, don't blame me for your lack of business acumen. Instead of accepting the first offer that came along, you should have advertised for sealed bids and proposals.

Quick, Like That

Rich Uncle (stern Fundamentalist)—I am extremely sorry to learn that Edward is in the habit of visiting a golf club on the Sabbath.

Wife (brightly)—Oh, but he doesn't play. He only just pops over for a few drinks and a game of bridge.—*Humorist*.

"Suggestion" Made Plain

"And you say your husband was cured of a bad attack of insomnia by suggestion?"

"Yes—purely by suggestion! I suggested that since he could not sleep he might as well sit up and amuse the baby. It worked like a charm!"—*Good Health*.

"Paper, Mister?"

"Can't read."

"Look at the pictures."

"Can't see."

"Well, you've got a head like a billy goat; eat it then."

Life's Darkest Moment

"Well, how's business?" a lawyer asked of a dismal ditto.

"Rotten!" came the answer, "I just chased an ambulance 12 miles, and found a lawyer in it."—*American Legion Monthly*.

"Was the brute who struck his wife punished by the court?"

"No; when it came to the trial the woman wouldn't acknowledge herself beaten."—*C. & O. Magazine*.

Not a Snore

A boy reading the inscriptions on tombstones, came to one which ran: "Not dead, but sleeping."

"Huh," he grunted, "that fellow ain't foolin' nobody but himself."

When an interne at the lying-in-hospital, I picked up a rabbi's professional card, which said in the corner: "Wedding ceremonies and circumcisions respectfully solicited."—*W. H. Robey, N. E. JI.*

"How did you find your date at the dance last night when the lights went out?"

"I picked her out by the Braille system."—*S. C. Wampus*.

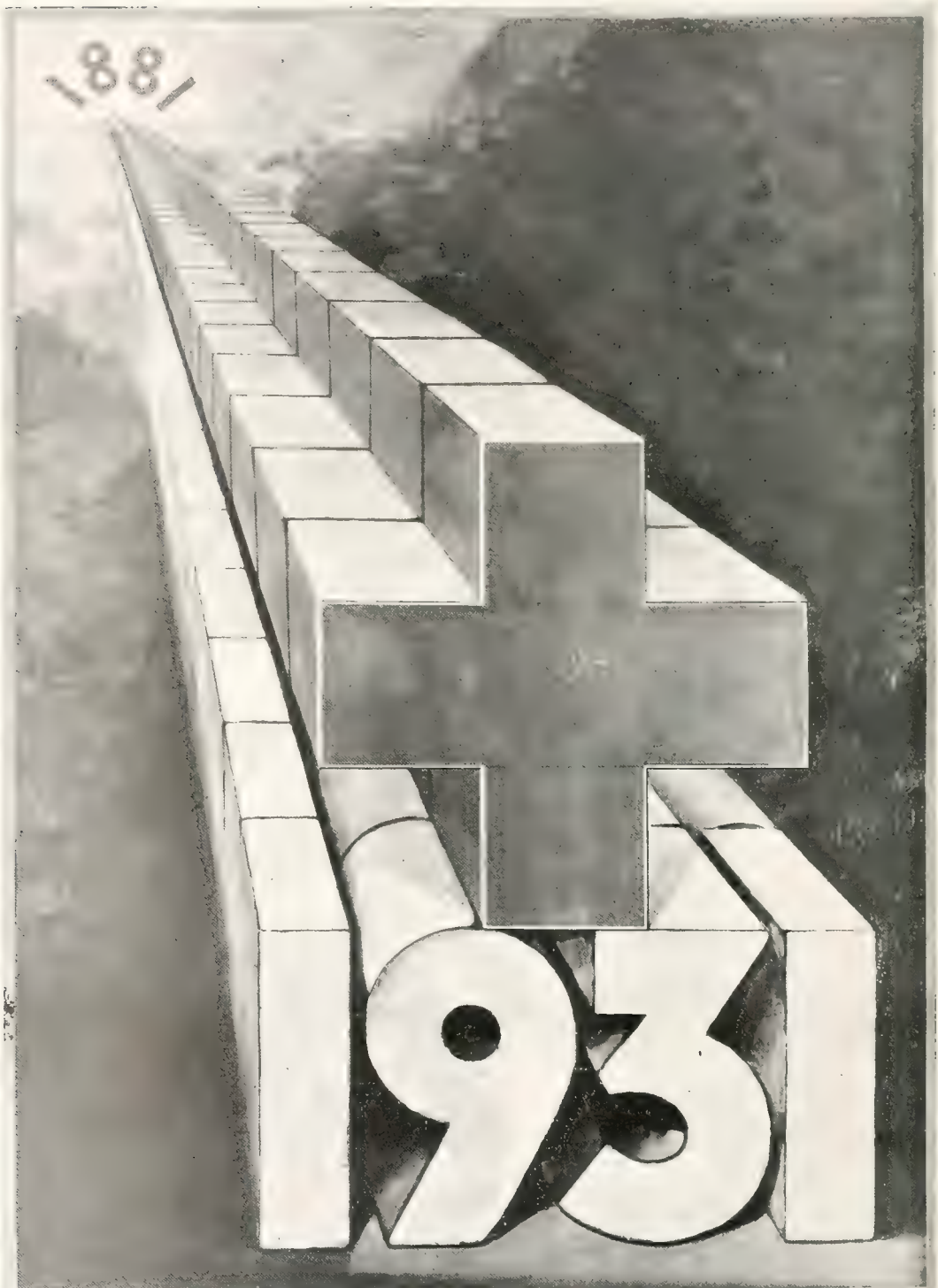
Miss Coy: I hate to think of my thirty-fifth birthday."

The Brute: Why, what happened on it?"

The latest Scotch football yell: "Get that quarter back."

Landlady—I'm sorry to say the lady who gave me the recipe for this soup has just died.

Star Boarder—Then, out of respect, we'll all drink it in silence.—*Smith's Weekly*.



THE AMERICAN RED CROSS

Please Mention THIS JOURNAL When Writing to Advertisers

INDEX 1931

ORIGINAL ARTICLES AND CASE REPORTS

Abdomens of Elderly, Chronic Surgical Disease in, <i>R. L. Gibbon</i>	12
Abdominal Conditions, Acute, <i>J. B. Helms</i>	727
Abortion and Abortifacients, <i>R. T. Ferguson</i>	889
Accessory Bones of the Foot, <i>A. R. Shands, jr.</i>	326
Acidosis, <i>E. S. King</i>	15
Analgesic and Anesthetic in Obstetrics, Choice of, <i>M. P. Rucker</i>	583
Anemia of Pregnancy, Pernicious, <i>C. W. Ashburn</i>	893
Antepartum Hemorrhage, <i>L. A. Wilson</i>	653
Appendicitis, <i>J. S. Rawls</i>	335
Appendicitis, Drainage in, <i>A. D. Parrott</i>	99
Arachnidism, <i>A. M. Cornwell</i>	885
Arthritis, <i>T. P. White</i>	820
Arthritis, Newer Concept of, <i>T. P. White</i>	30
Biliary Tract, Residual Conditions Following Operation on, <i>J. B. Deaver</i>	401
Blood Spitting, Causes of, <i>John Saliba</i>	9
Brain and Spinal Cord Lesions, Summary, <i>A. A. Barron</i>	897
Carcinoma, Early Stomach, <i>R. C. Mitchell</i>	808
Carcinoma of Stomach with Chylous Ascites, <i>W. B. Norment</i>	887
Cardiac Irregularities, <i>W. B. Kinlaw</i>	597
Cervical Cancer, <i>M. Thompson</i>	811
Cesarean Section: Low Cervical vs. Classical, <i>Ivan Procter</i>	513
Cholecystitis, Chronic, Without Stones, <i>J. D. Highsmith</i>	741
Chylous Ascites With Carcinoma of Stomach, <i>W. B. Norment</i>	887
Colonic Irrigation, High, <i>E. A. Sumner</i>	815
Communicable Diseases, Progress, <i>K. B. Geddie</i>	588
Diabetes Mellitus, Age and Weight in, <i>Wm. Allan</i>	344
Diagnosis, Two Cases Difficult of, <i>G. W. Kutscher, jr.</i>	123
Eclampsia, Advances in Treatment, <i>W. Z. Bradford</i>	178
Eclampsia, Conservative Treatment of, <i>M. P. Rucker</i>	269
Effort Syndrome, Posture in, <i>Wm. Allan</i>	668
Empyema, Chronic, Treatment of, by Decortication of the Lung, <i>I. A. Bigger</i>	265
Examination, Physical, in Industrial Employment, <i>A. P. Willis</i>	89
Examinations of School Children, <i>J. Donnelly</i>	825
Filterable Bacteria, <i>A. I. Kendall</i>	799
Fractures of the Lower Extremities, <i>M. H. Todd</i>	1
Fractures of the Spine, <i>M. H. Todd</i>	426
Gall-Bladder?, Shall We Operate on the Acutely Inflamed, <i>H. A. Royster</i>	739
Gall-Bladder Disease, Some Phases of, <i>D. T. Tayloe, jr., and DeWitt Klutz</i>	747
Gastrointestinal Disturbances, Functional, <i>F. R. Taylor</i>	605
Glomerulonephritis, <i>Christopher Johnston</i>	663
Habituations, <i>W. C. Ashworth</i>	665
Hemorrhoids in General Practice, <i>J. F. Montague</i>	670
Hemorrhoids, Injection Method in, <i>Thos. Brockman</i>	96
Hernia and the Compensation Law, <i>J. W. Davis</i>	581
Hernia, Inguinal, and Compensation Act, <i>H. F. Munt</i>	85
Herniated Heart Through Abdominal Wall, <i>R. P. Beckwith</i>	904
Herpes Zoster Oticus, <i>V. K. Hart and J. P. Matheson</i>	273
Hookworm Disease Simulating Migraine, <i>C. W. Ashburn</i>	39
Hormone Test for Pregnancy, <i>W. Z. Bradford and L. C. Todd</i>	522
Hyperplastic Tuberculosis, Resection of Right Half of Colon for, <i>J. W. Gibbon</i>	107
Hypopituitarism, <i>H. R. Parker</i>	115
Hysterectomy, Chemical, <i>W. S. Hester</i>	660
Indigestion, <i>H. B. Haywood</i>	491
Infarction of Myocardium, <i>C. C. Carpenter</i>	674
Intestinal Obstruction, Acute, <i>H. A. Codington</i>	877
Intestinal Obstruction, Postoperative, <i>A. E. Baker, jr.</i>	341
Intracranial Neoplasms, Diagnosis of, <i>C. E. Dowman</i>	73
Intracranial Pressure with Complications, <i>Temple Fay</i>	485
Intravenous Urography, An Evaluation of Uroselectan and Skiodan, <i>H. W. McKay</i>	256
Intravenous Urography, Experiences With, <i>C. B. Squires</i>	294
Intravenous Urography, Using Skiodan and Iopax, <i>W. C. Stirling</i>	245
Intussusception, <i>W. H. C. White</i>	24
Leucemia, with Infectious-Like Onset, <i>F. R. Taylor</i>	518
Lung Abscess, <i>J. W. Gibbon</i>	609
Lung Pathology, Pneumonography, Endoscopy, <i>V. K. Hart</i>	405
Lung Suppurations (Bronchoscopic Standpoint), <i>V. K. Hart</i>	19
Macnin, Ascaris Infestation, <i>P. F. Whitaker</i>	757
Medicine and Dentistry, <i>H. O. Lineberger</i>	496
Mental Diseases, Some Causes, <i>W. R. Griffin</i>	349
Merckel's Diverticulum, Diseases of, <i>J. R. Young</i>	353

Mercurochrome in Sepsis, <i>T. C. Redfern</i>	678
Milk Sickness, <i>W. P. Richardson</i>	731
Nausea and Vomiting of Pregnancy, <i>C. J. Andrews</i>	502
Os Calcis, Fractures of, <i>J. W. White</i>	184
Pain Cycle, The, <i>Edward Podolsky</i>	271
Pellagra, Early Diagnosis, <i>V. S. Caviness</i>	504
Pellagra—New Treatment, <i>R. C. Miller</i>	733
Peritonitis, Suppurative, <i>Southgate Leigh</i>	447
Phrenicectomy, <i>R. B. Davis</i>	823
Poliomyelitis, Anterior, Orthopedic Care of, <i>R. A. Blakey</i>	181
Poliomyelitis, Bulbar, Disturbances of Deglutition Due to, <i>V. K. Hart and F. E. Motley</i>	195
Post Graduate Study, A Neglected Opportunity for, <i>C. C. Carpenter</i>	737
Pre-Operative Study, Value of, <i>R. M. Pool</i>	901
President Medical Society of North Carolina, Address of the, <i>J. G. Murphy</i>	313
President of the Tri-State Medical Association, The Address of, <i>W. B. Lyles</i>	157
Prostatic Surgery, Progress in, <i>A. J. Crowell</i>	603
Psychopathology and the Objective Method, <i>T. A. Williams</i>	8
Pulmonary Abscess, <i>H. S. Black</i>	192
Pulmonary Suppuration, Treatment of, <i>J. A. Moore</i>	81
Pyorrhea As a Focus of Infection, <i>W. D. Gibbs</i>	592
Reminiscences of 42 Years in the Practice of Medicine, <i>J. F. Highsmith</i>	164
Ringworm of the Skin, <i>W. L. Kirby</i>	880
School Child, The, From a Nervous Standpoint, <i>Wesley Taylor</i>	171
Scrotum, Avulsion and Reconstruction of, <i>J. F. Robertson</i>	527
Social and Medical Problems of an Isolated Region, <i>B. N. Epler</i>	233
Spinal Anesthesia, <i>Douglas Jennings</i>	175
Spinal Anesthesia, <i>N. P. Battle</i>	508
Spinal Anesthesia for General Surgery, <i>G. P. LaRoque</i>	238
Spinal Anesthesia in Pregnancy Complicated by Cardiac and Renal Disease, <i>H. H. Ware, jr.</i>	241
Squint, <i>A. J. Ellington</i>	818
Stomach, Chronically Dilated, and Yeasts, <i>J. A. Buchanan</i>	92
Strabismus in Children, <i>J. W. White</i>	804
Subarachnoid Hemorrhage, Spontaneous, <i>R. F. Gayle and R. B. Easley</i>	444
Teach My Students, What I, <i>Kennon Dunham</i>	100
Testicular Tumor in Infancy, <i>Raymond Thompson</i>	756
Thrombocytopenic Purpura, Platelets in, <i>C. T. Smith</i>	725
Thyroid Gland, Surgery of the, <i>L. D. Keyser</i>	433
Tonsils in Children, Indications and Contra-Indications for the Removal of, <i>D. L. Smith</i>	160
Tuberculosis, Rest in, <i>P. P. McCain</i>	499
Tuberculosis Sanatorium, For a Four-County, <i>L. A. Crowell, jr.</i>	750
Underwriters, Medical, and Attending physicians, <i>J. J. Post</i>	186
Urethra, Two Cases of Traumatic Rupture, <i>R. E. Brooks</i>	194
Urology, Practical Problems in, <i>Sidney Smith</i>	251
Uterosalingography, <i>D. B. Cobb</i>	411
Uterus, Spontaneous Rupture of, <i>Douglas Jennings</i>	345
Veterinary and Human Medicine—Pasteur, <i>F. R. Taylor</i>	110
Wassermann Test, Routine, in General Practice, <i>C. M. Gilmore</i>	188
Weaning, Premature, <i>R. A. Moore</i>	32
X-Ray Stereoscopy, A Special Technique in, <i>D. R. Austin</i>	755

CLINICS

Disseminated Sclerosis, <i>J. A. Shield</i>	753
Surgery— <i>E. P. Lehman</i>	322
Urology— <i>J. R. Caulk</i>	316

NOTES

Alkalosis, <i>L. G. Gage</i>	615
Appendicitis, The High Mortality in, <i>E. S. Boice</i>	449
Coronary Occlusion, <i>L. G. Gage</i>	298
Diagnosis and Treatment, <i>B. C. Willis</i>	376
Diagnosis and Treatment, <i>N. P. Battle</i>	680
Disorders of Emotional Origin, <i>L. G. Gage</i>	379
Duodenal Ulcer, <i>L. G. Gage</i>	196
Ectopic Pregnancy, <i>B. C. Willis and C. T. Smith</i>	528
Ectopic Pregnancy, <i>J. W. Davis</i>	829
Gall-Bladder or Coronary, Autotransfusion, Aspirate Joint, Select for Spinal, <i>B. C. Willis</i>	905
Gastro-Intestinal Hemorrhage, <i>L. G. Gage</i>	40
Goiter, <i>Davis Hospital Staff</i>	907
Head-Pain or Headache?, <i>L. G. Gage</i>	541
Heart Attacks, <i>W. B. Kinlaw</i>	613
Intravenous Medication, <i>J. P. Kennedy</i>	124
Mineral Oils, <i>L. G. Gage</i>	529
Pellagra, Infantile, <i>J. A. Winstead</i>	758

Pharmaceutics, A Chapter in the Development of High Class (Abs.)	947
Physiology, <i>Editor of the Journal</i>	830
Physiology, <i>F. R. Taylor</i>	955
Sponging for Fever—Saline Under Skin, <i>E. S. Boice</i>	828

EDITORIALS

(Unsigned Editorials are by the Editor)

Abstracts: Ask for Reprints ..	276
Advertisement, A British	561
Anatomy and Physiology in the Public Schools, For	759
Artful Artie	624
Candidates, Ask How They Stand	913
Charity Practice of the Dr. Munchausens, The	217
Chiropractor to Workhouse	557
Clinic?, What is a	130
Clinical Bearings of Lymph Formation and Edema, <i>I. H. Manning</i>	617
Committee on the Cost of Medical Care, New Light on Aims of	452
Confederate States Medical and Surgical Journal	864
Country Doctor Looks at Female Complaints (Abstract)	38
Cremation As a Cure for the Cost of Dying	130
Crow, Dr., An F.A.C.P.	388
Davis Hospital Clinic	559
Department Editors, New	559
Department Editors, New	914
Doctor, First Class	858
Doctor, The—His Critics—His Hindering Helpers	212
Doctor, What Can One Do?	685
Doctors and Railroads	910
Drug, The Deadliest	682
Duke, Dedicated	381
Durham Meeting, The	384
Electrocardiograph, <i>W. B. Kinlaw</i>	216
Employing Home Doctors An Important Part of Live-At-Home Plan	454
Eye Conditions, Emergency, in General Practice	621
Family Doctor and the Specialist, The	35
Family Doctors on Division of the Medical Field With Specialists	274
Fat, Flattering the	860
Foundations and Their Trends (Abstract)	455
Goiter Classification and Nomenclature	765
Grave Digger, The Exaltation of the	457
Hayes, Dr., The Latest Chapter in the Case of	126
Health Commissioner of Virginia, Assistant Surgeon-General U. S. P. H. Becomes	557
Health Officer, Sketch of North Carolina's New, <i>A Friend Through the Years</i>	552
Health Officer, State, Bespeaks Support of Doctors	553
Holyoke's, Dr. Edward, Pertinent Remarks	625
Hospitalization, Government, vs. Private Medical Care	761
Hospitals, Private, Deserve Gratitude, Encouragement and Support	681
Just Like Poppa	911
Letter, A	686
Lincoln's Club	560
Make a Woman Comfortable and Let Her Bear Her Child	558
Mariahuana, More About	913
Medical College, The Prime Function of a	762
Medical Society, Functioning of the	684
Medical Society of Virginia of a Century Ago, The	128
Medicine's Case, Some Weaknesses in	275
Medicine's Ills—And the Remedy	855
Newspaper Helps Cause of Rational Medicine	860
Newspaper That Lines Up With Doctors, A	129
Newspapers?, Why Not Enlist the Aid of the	913
Nursing by the Hour	765
Nursing for the Doctor's Hospital Patient	623
Old Shoe Re-Vamped, An	147
Pay or No-Pay Different	683
Pellagra, State Board of Health and State College Working Together to Eradicate	457
Plan, Money-Saving as Well as Life-Saving, A	764
Pot-Guttedness	686
Presidency, This Journal's Nominee for the	386
Psychiatrists, Not Tell Us?, Will the	764
Puerperal Infections, A Source of	685
Quacks, State Board of Health Should Squelch	553
Reprints Worth While?, Are (Abstract)	862
"Rush" Patients to a Hospital?, Why	384
Situation and Outlook	910

Sketch, A Sequel to Dr. Epler's	37
Spinal Anesthesia, <i>J. W. Davis</i>	383
State Medical Society, Executive Committee of	620
State Medicine, The Way to Meet the Menace of	147
Stonewall Jackson, The Wounding and Death of	454
String Beans, Canned by Cold Pack Process	623
Taylor, "Dr.", Guilford Keeps Moving	558
Taylor, M. Sayle	386
Testimonials, Something New in	384
Tri-State and Its Recent Meeting, The	215
Tri-State Doctors Honored	561
Tri-State Meeting, The Coming	36
Tuberculosis, Home vs. Institutional Treatment of	685
Tucker, President	216
Virginian Dies, Best Loved	555
Warren, Dr. Wm. E., of Williamston	383
Weather, Make Friends With	683
Witch for Devil	760
Work, A Highly Commendable Piece of	388

DEPARTMENT EDITORIALS

(Unsigned Department Editorials are by the Editor of the Department)

HUMAN BEHAVIOR

Common Sense and The Human Mind	358
Diana of The Carolinas	358
Family Doctor as a Psychiatrist, The, <i>W. M. Johnson</i>	277
Gift of God, The	833
Homicide Suicide?, Is	197
Lawyers?", "What About the, <i>W. M. Johnson</i>	766
Nullificationist, Another	939
Pelham, The Gallant	359
Pharisee, The Ancient, Still Lives—And Prospers	199
Pro Patria	831
Psychiatrist, Every Physician a	41
Report, A Thought Provoking	132
Schizoid Morality	360
Shimei	834

DEPARTMENT EDITOR—*J. K. Hall*

PEDIATRICS

Advances, Pediatric, <i>G. W. Kutscher</i>	921
Anodyne, Antispasmodic and Sedative, A Valuable, <i>E. K. McLean</i>	536
Atelectasis, Congenital, <i>G. W. Kutscher, jr.</i>	643
Celiac Disease, <i>E. K. McLean</i>	705
Family Doctor and the Pediatrician, The, <i>Y. W. Faison</i>	56
General Practitioner As a Pediatrician, The, <i>Percy Harris</i>	279
Pediatrician's Job, An Important Part of the, <i>F. H. Richardson</i>	774
Teething—Is It a Diagnosis?, <i>F. H. Richardson</i>	144

DEPARTMENT EDITORS—*F. H. Richardson, G. W. Kutscher, jr., and E. K. McLean*

DENTISTRY

Advances in Dentistry	945
"Dead" Tooth	851
Family Doctor As a Dentist, The, <i>C. C. Hubbard</i>	280
Family Doctor, The, The General Surgeon and the Dental Surgeon	42

DEPARTMENT EDITOR—*W. M. Robey*

EYE, EAR, NOSE AND THROAT

Asthma, Pertinent Remarks on, <i>V. K. Hart</i>	700
Carcinoma of Larynx No Respector of Age, <i>V. K. Hart</i>	137
Cervical Adenitis, Tonsillectomy in Acute, <i>V. K. Hart</i>	207
Country Doctor and O-L-A-R Work, The, <i>J. F. Nash</i>	361
Deafness Bilateral, Sudden, <i>V. K. Hart</i>	291
Eustachian Tube, Practical Aspects of the, <i>V. K. Hart</i>	769
Family Doctor and the Specialist in Diseases of the E., E., N. & T., <i>F. C. Smith</i>	43
Foreign Bodies of the Food and Air Passages, <i>V. K. Hart, C. N. Peeler and F. E. Motley</i>	545
Innovations in Otolaryngology, <i>V. K. Hart</i>	923
Optochin, Permanent Loss of Vision From, <i>F. C. Smith</i>	769

DEPARTMENT EDITORS—*Eye, Ear and Throat Hospital Group*

LABORATORIES

Albumin in the Urine, <i>D. R. Murchison</i>	934
Family Doctor and the Clinical Pathologist, The, <i>H. P. Barret</i>	44
Family Doctor and Laboratory Diagnostic Aids, The, <i>J. W. Martin</i>	281

Laboratory in Clinical Medicine, *C. C. Carpenter* 936

DEPARTMENT EDITOR (through Nov., 1931)—*The Barret Laboratories*

DEPARTMENT EDITORS (Since Nov., 1931)—*D. R. Murchison & C. C. Carpenter*

ORTHOPEDIC SURGERY

Baer, Wm. Stevenson, <i>A. R. Shands, jr.</i>	458
Clinics, Toronto	840
Club Foot, Treatment of, <i>W. M. Roberts</i>	136
Family Doctor and the Orthopedic Surgeon, The	44
Family Doctor As An Orthopedic Surgeon, <i>G. G. Dixon</i>	362
Fractures of the Hip, <i>W. M. Roberts</i>	771
Fractures of the Spine	628
Hand a Chance, Give the, <i>J. W. White</i>	690
Joints, Ankylosed in Bad Position, <i>A. T. Moore</i>	531
Osteomyelitis, Multiple, Blood Transfusions in, <i>T. B. Clegg</i>	292
Supraspinatus Tendon, Rupture of	925
Synovectomy of the Knee Joint	205

DEPARTMENT EDITOR—*O. L. Miller*

UROLOGY

Cystitis, Acute and Chronic, <i>T. D. Moore</i>	366
Cystoscopy Painless, The Problem of Making, <i>H. W. McKay</i>	767
Family Doctor and the Urologist, The, <i>H. W. McKay</i>	45
Family Doctor As a Urologist, The, <i>J. C. Buchanan, jr.</i>	366
Gonorrhea, The Treatment of, <i>M. F. Fowler</i>	200
Hematuria, The Differential Diagnosis of, <i>J. V. Visser</i>	133
Prophylaxis and Abortion of Venereal Disease in the Male, <i>S. Smith</i>	926
Prostatic Infection, The Significance of, <i>A. I. Dodson</i>	626
Prostatitis and Seminal Vesiculitis, <i>R. W. Upchurch</i>	532
Spinocain in Urology, <i>Earl Floyd and J. L. Pittman</i>	460
Traumatic Hematuria, <i>C. O. DeLaney</i>	927
Venereal Sores, <i>H. E. Wyman</i>	694

DEPARTMENT EDITORS—*H. W. and R. W. McKay*

DERMATOLOGY

Dermatitis, Plant	466
Family Doctor and the Dermatologist, The	50
Family Doctor As a Dermatologist, The, <i>J. H. Hiden</i>	285
Hair, Care of the	696

DEPARTMENT EDITOR—*J. A. Elliott*

INTERNAL MEDICINE

Cancer	634
Ether Hyperglycemia	371
Family Doctor and the Internist, The	51
Family Doctor as an Internist, <i>H. W. Lewis</i>	290
Graves' Disease, Pathogenesis	137
Heliotherapy in Tuberculosis	543
House Infection in Pulmonary Tuberculosis	776
Insulin in Conditions Other Than Diabetes Mellitus	464
Malaria Therapy of Neurosyphilis	942
Medical Literature, Comments on	847
Pernicious Anemia, Management of	204
United Fruit Co., Medical Report	706

DEPARTMENT EDITOR—*P. H. Ringer*

SURGERY

Abdominal Diagnosis, Neglected Symptoms in, <i>R. B. McKnight</i>	630
Advances in Surgery	918
Anomalies of the Lumbar Spine and Spinal Anesthesia	463
Appendicitis vs. Salpingitis	702
Diabetic Patients, Pre- and Post-Operative Medical Treatment of, <i>L. E. Madden</i>	203
Diabetics, Surgery in	293
Family Doctor and the Surgeon, The	52
Fat Emboli	772
Gas Gangrene in Civil Practice	535
Hemorrhage in New Born	838
Meckel's Diverticulum	140
Night Operations	374

DEPARTMENT EDITOR—*G. H. Bunch*

THERAPEUTICS

A. M. A. Meeting, Note on	538
Advances in Therapeutics	915
Deaverisms	845
Dieting, Fallacies in	462
Digestants, Artificial	140

Directory, The New American Medical	537
Family Doctor and Therapy, The	53
Family Doctor As a Therapist, The, <i>K. G. Averitt</i>	290
Heart Failure, Management of the Early Stages	640
Inhalations, Sprays and Local Applications	461
Pellagra	843
Peptic Ulcer, Something New In, <i>H. B. Hiatt</i>	688
Purgatives, Laxatives, Intestinal Lubricants, Bulk Promoters, Roughage, etc.	208

DEPARTMENT EDITOR—*F. R. Taylor*

OBSTETRICS

Advances in Obstetrics	917
Cesarean Section	631
Cesarean Section, Mortality	692
Family Doctor and the Obstetrician	54
Family Doctor and the White House Conference (Child and Mother), <i>H. J. Langston</i>	547
Family Doctor As An Obstetrician, The, <i>R. C. Tatum</i>	287
Illegitimate Pregnancy, The Vomiting of	694
Internal Secretions and Pregnancy	842
Labor, The Last Two Hours of the Second Stage	206
Red Lights During the Last Five Weeks	777

DEPARTMENT EDITOR—*H. J. Langston*

GYNECOLOGY

Backache, Women's	841
Backache in Women	702
Cancer of the Cervix, Prevention of	468
Cancer of the Cervix, Radical Hysterectomy For	137
Carcinoma of the Cervix	301
Catheter in Gynecology and Obstetrics, The, <i>R. E. Seibels</i>	373
Family Doctor and the Gynecologist, The	56
Gynecology, Conservative	638
Gynecological Treatment, Adjuvants to	941

DEPARTMENT EDITOR—*C. R. Robins*

NEUROLOGY

Encephalitis, Atypical	837
Family Doctor and the Neurologist, The	57
Family Doctor As a Neurologist, The, <i>J. A. Norton</i>	377
Hysteria, Juvenile	134
Nervousness?, What Is	629
Neuralgia, Trifacial, A Remedy for	293

DEPARTMENT EDITOR—*O. B. Chamberlain*

HISTORIC MEDICINE

A North Carolina Doctor, <i>J. G. deR. Hamilton</i>	58
Anaphylactoid Shock—Historical Note, <i>B. M. Randolph</i>	459
Wells, William Charles, <i>R. E. Seibels</i>	538

PUBLIC HEALTH

Advances in Public Health Work	928
Disease Prevention, Family Doctors In	645
Infant and Maternal and Pellagra Mortality Lowered	536
Poliomyelitis, Control of	699
State Health Policies	848
Typhoid Fever	782
Ziegler, Dr.	848

DEPARTMENT EDITOR (Since July)—*G. M. Cooper*

GENERAL PRACTICE

Advances in General Medicine	930
Advances in General Surgery, <i>A. deT. Valk</i>	932
Anesthesia As Observed by the Doctor Standing By	780
Book, A Good	849
Hypertension, Some Facts Anent	642
Medical Writing, Simplicity in	849
Nauheim, The American	704
Quack, A Sixteenth Century	932
Salutatory	530
Shorter Hours for Young Children	931
Swimming Pool Menace, The	704
Workman's Compensation Act, The	780

DEPARTMENT EDITOR (Since July)—*W. M. Johnson*

HOSPITALS

Foreword	549
Hospitals and Industrial Commission	698

Hospital Situation	930
Hospitals, Speak Up For, <i>Harold Glascock</i>	773

DEPARTMENT EDITOR (Since July)—*M. C. Parrott*

RADIOLOGY

Advances in Radiology	920
Appendicitis, Chronic, and X-Ray, <i>D. Kluttz</i>	852
Diagnosis, Faulty, <i>D. Kluttz</i>	689
Duodenitis, <i>D. Kluttz</i>	784
Family Doctor and the Radiologist, The, <i>J. D. MacRae, jr.</i>	48
Family Doctor As a Roentgenologist, The, <i>O. B. Ross</i>	363
Short Wave Radiations, Local Tissue Effects of, <i>J. D. MacRae, jr.</i>	141
DEPARTMENT EDITORS—(Through Aug., 1931), <i>J. D. MacRae, jr.</i> (Since Aug., 1931), <i>Dewitt Kluttz</i>	

NURSING

Advances in Nursing	946
Hourly Nursing, <i>Hettie Reinhardt</i>	770
Office Nursing, <i>B. B. Denmark</i>	853

DEPARTMENT EDITOR (Since October)—*Hettie Reinhardt*

WOMAN'S AUXILIARY

Message of President of Woman's Auxiliary, <i>Mrs. W. B. Murphy</i>	306
Notes	793
"	853
Women at The A. M. A. Meeting, <i>Mrs. W. J. Freeman</i>	375

IN CHARGE OF (Since October)—*Mrs. P. P. McCain*

IN MEMORIAM

Deaver, John B., Master Surgeon, <i>W. M. Scruggs</i>	786
Frazer, Dr. Thompson	947
Hare, Hobart Amory, <i>C. S. Mangum</i>	550
Irwin, John Robinson, <i>G. W. Pressly</i>	551
Kollock, Dr. Charles Wilson, <i>A. E. Baker</i>	786
Montgomery, Dr. J. C., <i>G. W. Pressly</i>	380
Polak, John Osborn, <i>W. Z. Bradford</i>	551

(See also under Editorials)

AUTHORS

Allan, Wm.	344, 668	Fay, T.	485
Andrews, C. J.	502	Ferguson, R. T.	889
Ashburn, C. W.	39, 893	Gayle, R. F.	444
Ashworth, W. C.	665	Geddie, K. B.	588
Austin, D. R.	755	Gibbon, J. W.	107, 609
Baker, A. E., jr.	341	Gibbon, R. L.	12
Barron, A. A.	897	Gibbs, W. D.	592
Battle, N. P.	508	Gilmore, C. M.	188
Beckwith, R. P.	904	Griffin, W. R.	349
Bigger, I. A.	265	Hart, V. K.	19, 195, 273, 405
Black, H. S.	192	Haywood, H. B.	491
Blakey, R. A.	181	Helms, J. B.	727
Bradford, W. Z.	178, 522	Hester, W. S.	660
Brockman, T.	96	Highsmith, J. D.	741
Brooks, R. E.	194	Highsmith, J. F.	164
Buchanan, J. A.	92	Jennings, D.	175, 345
Carpenter, C. C.	674, 737	Johnston, C.	663
Caviness, V. S.	504	Kendall, A. I.	799
Cobb, D. B.	411	Keyser, L. D.	433
Codington, H. A.	877	King, E. S.	15
Cornwell, A. M.	885	Kinlaw, W. B.	597
Crowell, A. J.	603	Kirby, W. L.	880
Crowell, L. A., jr.	750	Kluttz, D.	747
Davis, J. W.	581	Kutscher, G. W., jr.	123
Davis, R. B.	823	LaRoque, G. P.	238
Deaver, J. B.	401	Leigh, S.	447
Donnelly, J.	825	Lineberger, H. O.	496
Dowman, C. E.	73	Lyles, W. B.	157
Dunham, K.	100	Matheson, J. P.	273
Easley, R. B.	444	Miller, R. C.	733
Ellington, E. A.	818	Mitchell, R. C.	808
Epler, B. N.	233		

Montague, J. F.	670	Shands, A. R., jr.	326
Moore, J. A.	81	Smith, C. T.	725
Moore, R. A.	32	Smith, D. L.	160
Motley, F. E.	195	Smith, S.	251
Munt, H. F.	85	Squires, C. B.	294
Murphy, J. G.	313	Stirling, W. C.	245
		Sumner, E. A.	815
McCain, P. P.	499	Taylor, D. T., jr.	747
McKay, H. W.	256	Taylor, F. R.	110, 578, 605, 955
Norment, W. B.	887	Taylor, W.	171
		Thompson, M.	811
Parker, H. R.	115	Thompson, R.	756
Parrott, A. D.	99	Todd, L. C.	522
Podolsky, E.	271	Todd, M. H.	1, 426
Pool, R. M.	901		
Post, J. J.	186	Ware, H. H., jr.	241
Procter, I.	513	Whitaker, P. F.	757
		White, J. W.	184
Rawls, J. S.	335	White, J. W.	804
Redfern, T. C.	678	White, T. P.	30, 820
Richardson, W. P.	731	White, W. H. C.	24
Robertson, J. F.	527	Williams, T. A.	8
Royster, H. A.	739	Willis, A. P.	89
Rucker, M. P.	269, 583	Wilson, L. A.	653
Saliba, J.	9	Young, J. R.	353



PHYSICIANS' DIRECTORY

GENERAL

BURRUS CLINIC & HIGH POINT HOSPITAL

High Point, N. C.

(Miss Gilbert Muse, R.N., *Supt.*)

General Surgery, Internal Medicine, Proctology, Ophthalmology, etc., Diagnosis, Urology, Pediatrics, X-Ray and Radium, Physiotherapy, Clinical Laboratories

STAFF

JOHN T. BURRUS, M.D., F.A.C.S., *CHIEF*

HARRY L. BROCKMANN, M.D., F.A.C.S.

PHILLIP W. FLAGGE, M.D., F.A.C.P.

EVERETT F. LONG, M.D.

O. B. BONNER, M.D., F.A.C.S.

S. S. SAUNDERS, B.S., M.D.

E. A. SUMNER, B.S., M.D.

THE STRONG CLINIC

Suite 2, Medical Building

Charlotte

C. M. STRONG, M.D., F.A.C.S.

CHIEF of CLINIC, Emeritus

J. L. RANSON, M.D.

Obstetrics and Gynecology and Anesthesia

OREN MOORE, M.D., F.A.C.S.

Obstetrics and Gynecology

MISS FANNIE AUSTIN, *Nurse*

DR. H. KING WADE CLINIC

Wade Building

Hot Springs, Arkansas

H. KING WADE, M.D. *Urologist*

CHARLES S. MOSS, M.D. *Surgeon*

O. J. MACLAUGHLIN, M.D.

Ophthalmologist

Oto-Laryngologist

H. CLAY CHENAULT, M.D.

Associate Urologist

MISS ETTA WADE *Pathologist*

INTERNAL MEDICINE

JAMES M. NORTINGTON, M.D.

*Diagnosis and Treatment
in*

INTERNAL MEDICINE

Professional Building

Charlotte

JAMES CABELL MINOR, M.D.

PHYSICAL DIAGNOSIS

HYDROTHERAPY

Hot Springs National Park

Arkansas

JAMIE W. DICKIE, B.S., M.D.

*INTERNAL MEDICINE
DISEASES OF THE CHEST*

Pine Crest Manor, Southern Pines, N. C.

ORTHOPEDICS

J. S. GAUL, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

ALONZO MYERS, M.D.

*ORTHOPEDIC SURGERY and
FRACTURES*

Professional Building

Charlotte

HERBERT F. MUNT, M.D.

*FRACTURES
ACCIDENT SURGERY and ORTHOPEDICS*

Nissen Building

Winston-Salem, N. C.

Medical Arts Bldg.

Charlotte

O. L. MILLER, M.D.—WM. M. ROBERTS, M.D.—HARRY WINKLER, M.D.

Practice Limited to
ORTHOPEDIC SURGERY and FRACTURES

125 W. Franklin Ave.

Gastonia

EYE, EAR, NOSE AND THROAT

AMZI J. ELLINGTON, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 992—Residence 761

Burlington

North Carolina

J. SIDNEY HOOD, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

PHONES: Office 1060—Residence 1230-J

3rd National Bank Bldg., Gastonia, N. C.

O. J. HOUSER, M.D.

Diseases of the
EYE, EAR, NOSE AND THROAT

Telephone: Office—4063

Hours—9 to 5 and by Appointment

219-23 Professional Bldg.

Charlotte

HOUSER CLINIC

FOR TONSILS AND ADENOIDS
Consultation 219 Professional Bldg.

411½ N. Tryon St.

Phone 4063

FOR SPACE RATES

Address

806 Professional Building

OBSTETRICS and GYNECOLOGY

C. H. C. MILLS, M.D.

OBSTETRICS

Consultation by Appointment

Professional Building

Charlotte

NEUROLOGY

Wm. Ray Griffin, M.D.

M. A. Griffin, M.D.

DOCTORS GRIFFIN and GRIFFIN

*NERVOUS AND MENTAL DISEASE
ADDICTIONS*

Appalachian Hall

Asheville

W. C. ASHWORTH, M.D.

*NERVOUS AND MILD MENTAL
DISEASES*

ALCOHOL AND DRUG ADDICTIONS

Glenwood Park Sanitarium, Greensboro

UROLOGY, DERMATOLOGY and PROCTOLOGY

THE CROWELL CLINIC OF UROLOGY AND DERMATOLOGY

Entire Seventh Floor Professional Building

Charlotte

Hours—Nine to Five

Telephones—3-7101—3-7102

Urology:

ANDREW J. CROWELL, M.D.

RAYMOND THOMPSON, M.D.

CLAUDE B. SQUIRES, M.D.

THEODORE M. DAVIS, M.D.

Prostatic Resection and

Operative Cystoscopy:

THEODORE M. DAVIS, M.D.

CLAUDE B. SQUIRES, M.D.

Clinical Pathology:

LESTER C. TODD, M.D.

Dermatology:

JOSEPH A. ELLIOTT, M.D.

Roentgenology:

ROBERT H. LAFFERTY, M.D.

CLYDE C. PHILLIPS, M.D.

Proctology:

L. D. McPHAIL, M.D.

Fred D. Austin, M.D.

DeWitt R. Austin, M.D.

THE AUSTIN CLINIC

RECTAL DISEASES, UROLOGY, X-RAY and DERMATOLOGY

Hours 9 to 5—Phone 2-2445

8th Floor Independence Bldg.

Charlotte

Dr. Hamilton McKay

Dr. Robert McKay

DOCTORS McKAY and McKAY*Practice Limited to UROLOGY and GENITO-URINARY SURGERY*

Hours by Appointment

Occupying 2nd Floor Medical Arts Bldg.

Charlotte

Residence Phone 1858

Office Phone 1857

W. B. LYLES, M.D.

Practice limited to

UROLOGY and UROLOGIC SURGERY

Hours 9-5—Sundays by Appointment

221 East Main Street

Spartanburg, S. C.

BROCKMAN'S PROCTOLOGIC CLINICTHOS. BROCKMAN, M.D., *Director**PRACTICE LIMITED TO**DISEASES OF THE COLON AND RECTUM*

Colonial Apartments

Greer, S. C.

WYETT F. SIMPSON, M.D.*GENITO-URINARY DISEASES*

Phone 1234

Hot Springs National Park Arkansas

SURGERY**ADDISON G. BRENIZER, M.D.***SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

R. B. McKNIGHT, M.D.*SURGERY*

and

SURGICAL DIAGNOSIS

Consultation by Appointment

Hours 2:30—5

Professional Building

Charlotte

WILLIAM FRANCIS MARTIN, M.D.*GENERAL SURGERY
GYNECOLOGY*

Professional Building

Charlotte

WM. MARVIN SCRUGGS, M.D., F.A.C.S.*SURGERY and GYNECOLOGY*

Consultation by Appointment

Professional Building

Charlotte

HAROLD GLASCOCK, M.D.*GENERAL SURGERY and
DIAGNOSIS*

Office At

Mary Elizabeth Hospital

Raleigh, N. C.





